COMMERCE
AMERICA
FORMERLY COMMERCE TODAY

U.S. Department of Commerce / October 11, 1976

Energy Impact Complicates Coastal Management Problem

Newsmemo

There's still time for careful study of the effect of man-made chemicals on the earth's protective ozone shield. Essentially, that is what the National Academy of Sciences said in a well-publicized report last month. Major conclusions were: 1) Selected regulation of fluorocarbon emissions will be necessary; 2) Costs of delaying imposition of such regulations will be small; 3) Within two years, current research should provide a more effective basis for developing sound regulations. And in this field, corrective action must be taken not just by the U.S. but by all nations.

Strike activity in 1975 was on a sharp downtrend, according to full-year figures now available. A recent Bureau of Labor Statistics report showed all measures of such activity dropping off from 1974 figures: 1,043 fewer strikes, 37 percent less workers involved, 35 percent less workdays lost. Economic issues were the most common causes of 1975 work stoppages, but more than a third of the year's disputes centered around plant administration and job security.

California is looking at proposals for tough energy efficiency standards for household appliances. Legislation now being studied would set two target dates, one of Sept. 15, 1977; the other, Sept. 15, 1979. Most air conditioners now sold fall short of the 1977 efficiency minimums, and few, if any, satisfy the 1979 goals. In refrigerators and freezers, 16 percent of current models fall short of the 1977 standards, and 45 percent are unsatisfactory by 1979 requirements. Industry spokesmen criticize the proposals as too restrictive, and urge California to align its standards with efficiency improvement targets now being considered by the Federal Energy Administration.

Electric utility companies have data to show that industrial and commercial consumers carry their share of the cost load. Residential consumers have maintained that the higher rates they pay are out of balance in the total rate structure. But in 31 of 40 recent cost-of-service cases the utilities were able to show that industrial and commercial rates generated a higher rate of return on investments than the rates charged to residential consumers.

The jamup of Good Buddies' voices on CB radio channels is being extended to electronics equipment warehouses. The present overcrowded 23 Citizens Band channels will become 40 on Jan. 1. But the Federal Communications Commission won't allow 40-channel sets to be imported or shipped from domestic factories in advance of that date, to permit liquidation of inventories of 23-channel sets. Equipment suppliers say this delay is causing problems: 1) Added costs of storing 40-channel sets until Jan. 1; 2) Difficulty of testing foreign-made sets for quality while overseas or in bonded warehouses; 3) Inequities related to permitting importers to store units in bonded warehouses near major markets, while U.S. makers must keep theirs at plants often farther from customers. Sales of CB equipment could reach $1 billion this year.

Developing countries, except for the very poorest, maintained high average growth rates during 1974 and 1975. This achievement, noted in the recent annual report of the World Bank, took place despite the combination of world recession and inflation that threatened to leave the economies of these countries in disarray. The World Bank observed that in the past three years many of the poorer countries sought resolutely to face their economic problems. Examples of their responses included initiating tax reforms, adjusting the domestic prices of petroleum and food, providing incentives to stimulate agricultural production, and adjusting exchange rates.

Effectiveness of such efforts is corroborated by a Bankers Trust Co. official. Speaking of the developing nations of the Pacific Basin area, Carlos Canal said many of them have taken the worldwide recession in better stride than many industrialized countries. Taiwan and Korea are examples cited by him. But a cloud on the horizon for the developing nations is the future level of world energy prices. Any increases above 10 percent could cause new economic disruptions, the banker believes.

A welcome to the Seattle-based publication "International Business." After a year of testing the water, the publication is adopting a new, more colorful and trimmer format and going bimonthly with its September/October issue. A major aim is to attract a national rather than a regional audience. For a free sample copy, write to 14842 First Ave. South, Seattle, Wash. 98148.

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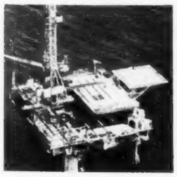

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COVER: Facing up to the energy crunch, the nation is trying to find ways to increase its domestic supplies of fuel wholly compatible with good coastal zone management so that the environment is least affected.

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ECONOMIC
HIGHLIGHTS

Reduction In Unused Capacity Promotes Further Investment

This column was prepared by John W. Kendrick, Commerce Chief Economist, in collaboration with staff economist H. Kemble Stokes.

John W. Kendrick

The strength of the current economic recovery is similar to that of previous postwar expansions. Gross National Product, adjusted for price changes, has advanced 8½ percent since the first quarter of last year. However, due to the severity of the recent recession, there are still significant, although diminishing, margins of unused physical capacity. Recent changes in capacity utilization have reflected the nature and strength of the current recovery. The increase in utilization rates since the first quarter of 1975 has contributed significantly to increasing unit profits in nonfinancial corporations. These profits will help provide the stimulation for capital investment, an important element in both the strength and pattern of future economic growth.

Bureau of Economic Analysis data show that the capacity utilization rate in manufacturing rose seven percentage points over five quarters of recovery. However, the June rate was unchanged from March at 82 percent. This estimate reflects the more moderate rate of economic expansion in the second quarter, as well as a small negative effect of the recent, but now terminated, strike in the rubber industry. Capacity utilization in durable goods industries increased by two percentage points to 83 percent in June and in non-durable goods industries slipped by one percentage point to 81 percent.

The manufacturing capacity utilization rate is now four percentage points below the recent peak established during 1973 and has regained seven, or 64 percent, of the 11 percentage points lost in the recent recession. For durable goods industries the gain has been 10, or 77 percent, of the 13 percentage points lost and for nondurable goods industries 5, or 50 percent, of the 10 percentage points lost.

These aggregate figures,however, mask some of the important features of the current recovery with regard to industry detail and timing, features which have important implications for the pattern of investment decisions in the second half of this year and 1977.

PROPORTION OF PREVIOUS DECLINES IN CAPACITY UTILIZATION RATES REGAINED BY SPECIFIED DATES
(Percent)

	Dec. 1975	June 1976
Manufacturing	36	64
Durable Goods	31	77
Primary Metals	0	67
Electrical Machinery	29	71
Machinery, except electrical	0	63
Transport equipment	35	70
Motor Vehicles	46	81
Aircraft	0	13
Stone, Clay, and Glass	29	53
Nondurable Goods	50	50
Food and Beverage	0	0
Textiles	73	73
Paper	55	70
Chemicals	38	63
Petroleum	40	90
Rubber	62	81

Note: For the rubber industry, the March 1976 estimate of capacity utilization is used in place of the June figure due to the distortion caused by the rubber strike. Estimates are calculated using peaks and troughs of each particular series.

These changes in capacity utilization are both a reflection of and responses to the character of the current economic recovery, which has, to a large extent, been a result of increased consumer purchases and a shift from inventory liquidation to accumulation. The resurgence of capital investment has been delayed in this expansion.

As the table illustrates, there are some striking differences between the patterns of recovery achieved by various manufacturing industries, mirroring to some extent the changes in final demand. The time frame includes the period between the trough of each series and the end of 1975, and the period covering the first six months of 1976. As such the estimates reflect not only a slower response by the specified date, but includes the fact that some industry utilization rates bottomed out at a later date, a factor which is significant for the timing of subsequent investment decisions.

By the end of 1975, durable goods industries had recovered only 31 percent of the capacity utilization lost in the previous recession while nondurable goods industries had recovered about 50 percent. In the six months of 1976, durable goods industries recovered an additional 46 percent while there were no further gains for nondurable goods industries. Within durable goods, the motor vehicle industry had the sharpest increase in capacity utilization, followed by the stone, clay and glass and electrical machinery industries. However, of the total increase in utilization rates achieved by June 1976, only motor vehicles had regained over half of that amount during 1975. All of the nondurable goods industries, excepting petroleum, had achieved more than half of their rebound in 1975.

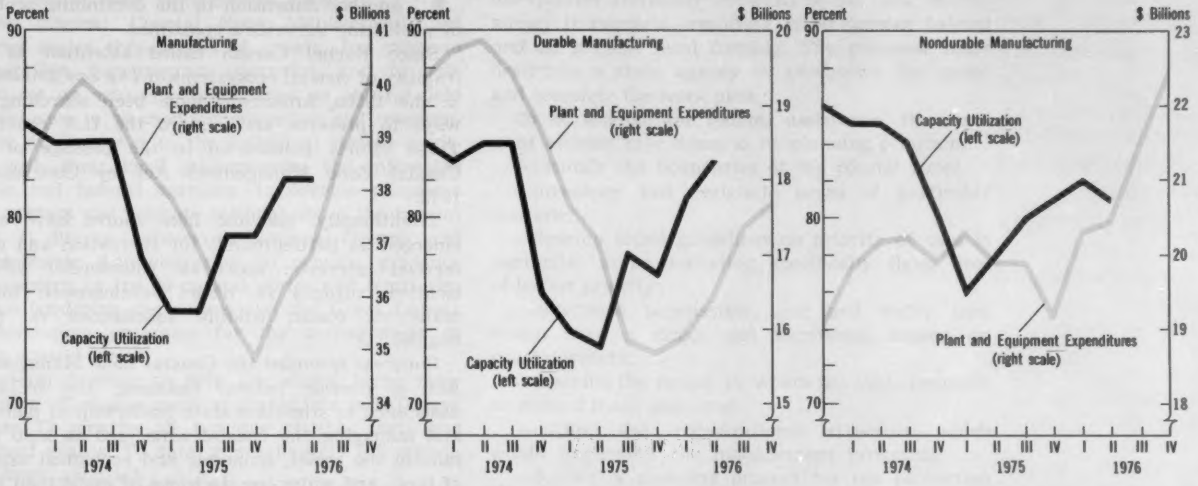
Reflecting these changes, as well as the overall reduced rate of capacity utilization, investment expenditures between the first and fourth quarter of 1975 declined by 8.2 percent, expressed in 1972 dollars ,for total manufacturing. Investment expenditures in durable goods industries declined by 11.3 percent, as the component industries, with the exception of motor vehicles, took a longer period to begin the recovery. For nondurable goods industries the decline in real investment expenditures was a more moderate 5.5 percent.

Plant and equipment expenditures increased significantly in the first half of 1976 for both durable goods and nondurable goods industries. Expenditures by durable goods industries increased by 4.6 percent and for nondurable goods industries, 6.7 percent. The second half of 1976 shows a continuation of these trends as durable goods and nondurable goods industries' plant and equipment expenditures are planned to increase by 7.7 and 9.7 percent, respectively.

Particularly sharp advances in real investment expenditures are scheduled for the capital goods producing industries, electrical (14 percent) and nonelectrical machinery (15 percent). These industries have experienced rapidly increasing rates of capacity utilization during the last six months and will be the most affected by increased investment generally. Other industries with particularly significant increases in investment expenditures are motor vehicles (19 percent), paper (27 percent), petroleum (10 percent), and chemicals (10 percent).

These changes in plant and equipment expenditures, in large part the consequence of past and anticipated economic growth and increasing rates of capacity utilization, will be contributing significantly to and altering the pattern of economic growth in the future. This planned expansion of physical capacity is a prerequisite for continued economic growth and further reduction of inflationary pressures.

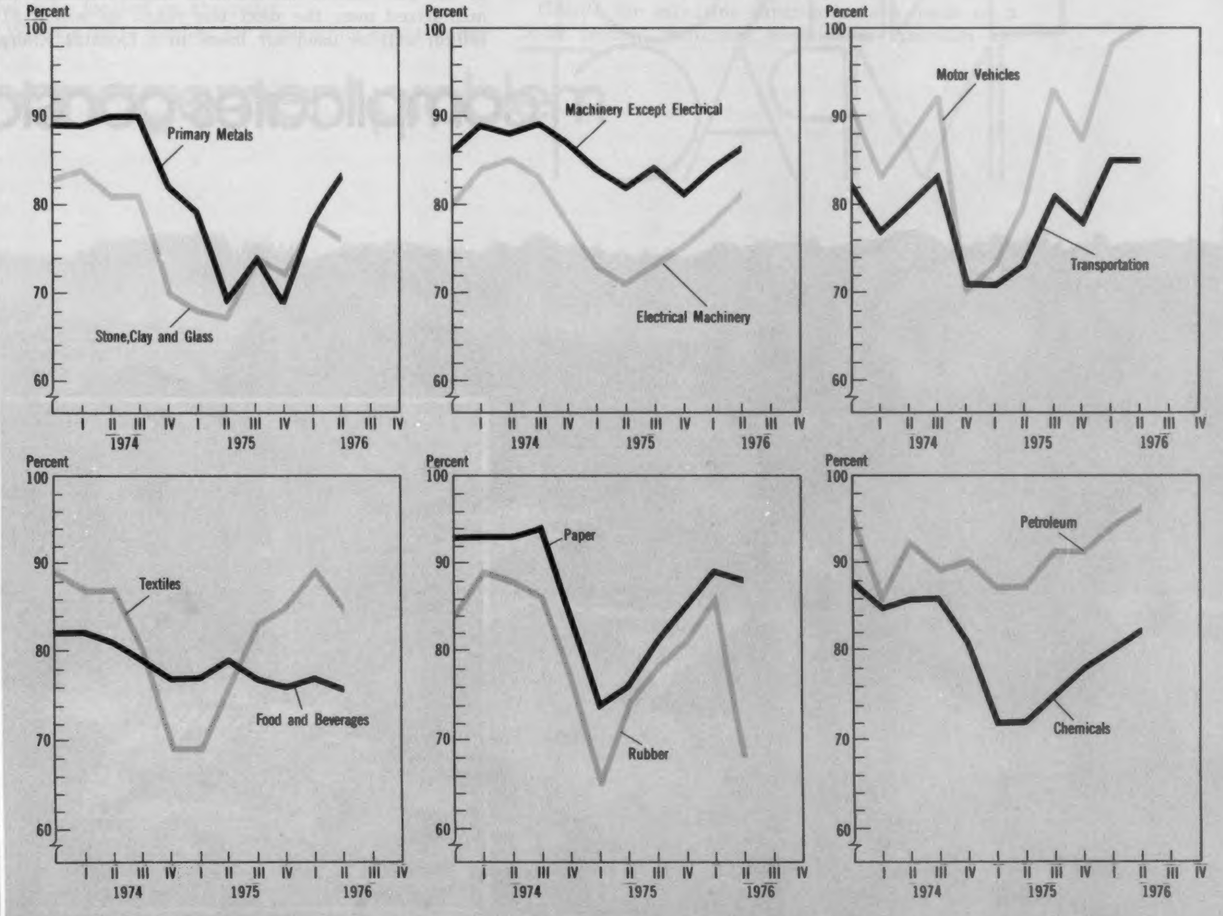
Capacity Utilization and Plant and Equipment Expenditures



Source: Bureau of Economic Analysis

NOTE: Plant and equipment expenditures adjusted for inflation by the implicit price deflator for the non-residential fixed investment component of GNP.

Capacity Utilization by Industry



Source: Bureau of Economic Analysis

ENERGY IMPACT complicates coastal

The U.S. energy situation has added still another dimension to the continuing problem of protecting America's coastlines.

Since Rachel Carson called attention to the fragility of coastal ecosystems in *The Sea Around Us* in the 1950s, Americans have been searching for ways to preserve and restore the U.S. coastline. These efforts culminated in the passage of the Coastal Zone Management Act by Congress in 1972.

Traditionally, sea and lake shores have often emerged as battlegrounds for recreation and commercial interests: sport vs. commercial fishing; isolated cottages vs. resort development; hiking trails vs. roads; wildlife sanctuaries vs. dune buggies.

Congress intended the Coastal Zone Management Act to provide federal financing and technical assistance to stimulate state leadership in planning and managing the coastal zone, and to help harmonize the social, economic and ecological aspects of land- and water-use decisions of more than local significance.

Recently, amendments to the Coastal Zone Management Act were passed to authorize additional funding for an area of critical national importance: increasing domestic supplies of energy in a way that is compatible with good coastal zone management. One billion six hundred million dollars was authorized over the next ten years, of which $1.2 billion will be used for loans in a Coastal Energy

Impact Program, and the remainder to expand the basic Coastal Zone Management Program.

The original Coastal Zone Management Act offered states three types of grants: for program preparation, for program operation, and to help them set up estuarine sanctuaries as natural field laboratories to be used for education and research.

The act leaves it to the individual states—working with their local governments, the interested public and federal agencies—to develop programs that protect and promote rational use of the coastal zone. It directs Commerce's National Oceanic and Atmospheric Administration to provide guidance and support to the 34 coastal states and territories (those bordering the oceans and the Great Lakes) in developing programs for the management of their coastal areas.

Federal funding to help the states begin their planning effort was made available late in 1973, and within 12 months all but one eligible state had received grants. To date, approximately $35 million has been awarded.

Under the new amendments, the Coastal Energy Impact Program provides financial assistance—grants, loans and bond guarantees—to coastal states and local communities affected by coastal-related energy activities. Specifically, the program helps finance public facilities and services made necessary by energy activity which by its nature has to be located on the coast.

When a state applies for a planning grant under the Coastal Zone Management Act, it must match one-quarter (formerly one-half) of the total federal money it requests—resulting in 80 percent federal and 20 percent local funding. The governor must designate a state agency to administer the grant and complete the work plan.

To be eligible for federal assistance, the state must address nine items in its planning program:

—identify the boundaries of the coastal zone;

—inventory and designate areas of particular concern;

—develop broad guidelines on priority of uses in particular areas, including specifically those uses of lowest priority;

—determine permissible land and water uses which have a direct and significant impact on coastal waters;

—describe the means by which the state proposes to control those uses; and

—outline the organizational structure which would implement the management program;

—develop a planning process for the protection of and access to coastal attractions;

—develop a planning process for energy facilities; and

—develop a planning process to deal with erosion.

When the state has developed its program, it can seek matching federal funds for 80 percent of the cost of administering the program.

Grants for estuarine sanctuaries are made on a 50-50 percent matching basis. This provision en-

management problem

Only by careful planning can the United States hope to achieve energy independence without damaging one of the country's most precious natural resources . . .

ables the state to acquire estuarine water bodies and adjacent waters, wetlands and uplands, and to operate the area for education and research.

In a similar vein, another law supports the preservation or restoration of marine sanctuaries. Any individual, organization, state or federal agency may nominate an area to be designated a marine sanctuary. To date, two have been set aside: the site of the wreck of the Civil War vessel *USS Monitor*, and an ocean area adjoining Florida's John Pennekamp Coral Reef State Park off Key Largo.

The Coastal Zone Management Act directs states to coordinate with federal agencies during plan development, and requires federal agencies to be consistent to the "maximum extent practicable" with the states' programs once they are approved.

To assure that all citizens have a voice in coastal zone management, the act insists that hearings be held during the planning stage. Those not only provide planners with citizen input, but also give the public the opportunity to keep abreast of their state's coastal management planning progress. Some states are going even further than is required by conducting public opinion polls, creating citizen advisory committees, and using county extension agents and publications from Sea Grant Programs to keep the public informed.

The act also specifies that state plans must serve the interests of the country, especially with regard to the siting of facilities. To this end, the act decrees that "air and water pollution control requirements . . . shall be incorporated into state coastal zone management programs." To meet this requirement, states must consult with the appropriate federal agencies, and discuss with adjacent and nearby states how regional needs may best be met.

In addition to energy production and transmission, some of the matters to be considered in determining whether the siting of a facility bears on the national interest are recreation, interstate transportation, production of food and fiber, preservation of life and property, national defense, mineral resources, and historical, cultural, esthetic and conservation values.

In requiring "adequate consideration of the national interest," the law does not mean that states must accept facilities in their coastal areas simply because federal agencies think such a facility would be in the national interest. It does mean, however, that the state must consider the matter and not arbitrarily exclude or unreasonably restrict such facilities without sufficient reason.

While there is an urgent need to develop additional energy resources for the country as a whole—that is, for the many—the cost in terms of environmental losses, social disruption and expenditures for the public facilities are often paid for by the few—the citizens of those communities which are directly involved.

The energy crisis has placed new emphasis on concern with the impact of off-shore oil and gas exploration. Most of the concern about the national interest in the siting of facilities relates to proposals for the Outer Continental Shelf (OCS).

In 1974, the OCS supplied 10 percent of domestic oil production and 15 percent of domestic gas. A recent U.S. Geological Survey study estimates that between 20 and 40 percent of future U.S. oil and gas resources could be recovered from OCS regions. In fact, the total amount of recoverable reserves in unexplored OCS areas considered suitable for leasing is unknown.

The federal oil leasing program was established by Congress through the Outer Continental Shelf Lands Act of 1953. Under this act, and the 1969 National Environmental Policy Act, the Department of the Interior chooses the general areas on the basis of resource potential, ease of development and environmental risk. Next, a call for nominations of specific tracts is published in the *Federal Register*.

Any person, association, state or subdivision, or private, public or municipal corporation may nominate a tract for lease. At the same time, the public may comment on the area under consideration. The Interior Department then makes a tentative selection of specific tracts.

Draft Environmental Impact Statements must be prepared on a sale-by-sale basis and made available for public review and comment at public hearings. At least 30 days after the final statement is published, the Secretary of the Interior decides whether to hold the sale and, if affirmative, which tracts to offer for leasing. Bidders then make a sealed cash offer.

Following the bidding process, the successful bidder receives a five-year lease granting exclusive right to explore the tract, and, if oil is found, to produce as much oil and gas as possible for as long as mineral production continues. Each lease specifies an amount of annual rent that must be paid until production begins and, after that, the amount of royalty (the percentage of market value of production).

The bidder must submit a plan for exploration, and later for development, which must be approved by the U.S. Geological Survey. Other federal agencies also have a regulatory role.

In 1974, as a key part of Project Independence, the President announced plans to accelerate oil and gas leasing on a large scale. The original goal was to lease ten million acres in 1975. However, due to various factors, only 1.7 million acres were actually leased in 1975.

The lack of specific data on the size of offshore oil and gas reserves before OCS lease are let affects the information available to coastal communities for planning related onshore development. The impact, both positive and negative, will affect land use patterns, social structures and lifestyle, population, employment, housing, local economy, tax base, and government services and facilities such as schools, roads, police and fire protection, water and sewer capacity.

Anticipating these effects and planning for them is a matter of serious concern in states and localities nearest the proposed federal OCS leasing areas. It is with this in mind that the Coastal Zone Management Act was expanded through amendments to provide assistance to these communities so that any adverse impact of energy development may be minimized.

The energy crisis will not go away. Only by careful planning can the United States hope to achieve energy independence without damaging one of the country's most valuable natural resources—its oceans and lakes, and the food, recreation and pleasure they provide to all. ☆

when the experts disagree

Who's a person to believe?

There are reputable scientists on all sides of every major technical issue affecting everyday life in this country: food additives, nuclear power, use of pesticides, and fluorocarbons' effect on the earth's ozone shield, among others in a seemingly endless list.

And satisfactory answers seem unobtainable until a method is devised for determining which of two equally-prestigious, but diametrically opposite, viewpoints is correct.

"Many times the disagreements are not because one expert is right and the other wrong," points out Richard O. Simpson of the Consumer Products Safety Commission. "Often, neither expert is 'wrong' in the usual sense of the word. Rather, they are arguing past each other on differing points, or else making different interpretations of available data and each presenting it as 'the truth.' "

One possible solution which has been winning adherents is a procedure whereby scientists representing different sides of a socially-significant issue could thrash out its technical aspects before an impartial, but expert, panel of fellow scientists from related disciplines.

Proponents and opponents of the idea met recently at the Xerox International Center for Training and Management Development at Leesburg, Virginia, to discuss the merits of a proposed "Science Court" (a name opposed by practically all participants, but which will be used in this article for lack of an accepted substitute). Commerce's Technical Advisory Board, the National Science Foundation and the American Association for the Advancement of Science joined in sponsoring the symposium, which was chaired by Asst. Secretary of Commerce for Science and Technology Betsy Ancker-Johnson.

"Choices will be made, one way or the other," Commerce Secretary Elliot L. Richardson told the symposium. "They may be made out of ignorance or they may be made intelligently—but in any case they will be made. . . . In the capacity of policymaker I have been involved in many of these things over a long time. . . . If we understand what we're doing, we know that we are constantly dealing with gross uncertainties. Again and again we do not have information available either in quantity or reliability anywhere near proportional to the importance of the decision we have been called upon to make. . . . The proposed experiment of the Science Court can help build scaffolding out into the abyss, so that the ultimate leap that has to be taken by the political process is narrower."

Simpson explains, "A primary purpose would be to create a situation in which the scientists having differing views of the state of current technical knowledge direct their best arguments at each other and at a panel of sophisticated scientific judges rather than at laymen. The experts themselves are not only in the best position to explain their views but are also in the best position to point out the faults of counter-reasoning." Simpson was a member of the Presidential Advisory Group on Anticipated Advances in Science

The judges . . . would determine what are currently the most scientifically compelling arguments . . .

and Technology, which drew up the proposal.

After three days of pulling and hauling, the general attitude of the assemblage was one of cautious approval, perhaps best represented by Environmental Protection Agency Administrator Russell Train: "My fascination is tempered by caution, not because I don't believe the idea has merit, but precisely because I think it does. Whether or not its early promises are ever fulfilled is another question. But I am convinced the idea deserves serious attention."

There were dissenters, however, such as Alan McGowan, president of the Scientists Institute for Public Information. "The science court poses many problems. Beyond the mechanical difficulties of getting adequately trained 'judges' who at the same time have no previous involvement in the issue—a difficulty in itself enough to destroy the idea of the court—the concept flies in the face of science itself.

"The way to resolve scientific disputes is more data, not cutting off research and making a decision based on inadequate information. Yet the very essence of the court is to make decisions in cases where society cannot afford the time or the money to do the work necessary to resolve the dispute.

"In short, the Science Court will not work, even for those who think it a good idea."

Just what is this proposal, which seems to have stirred up precisely the kind of controversy it is designed to resolve?

First proposed by physicist Arthur Kantrowitz of Avco Everett Research Laboratory, who remains its most dedicated backer, the basic mechanism would be a court-like procedure in which an issue will be discussed in adversary fashion before a panel of scientific judges. The judges would be scientists but would not be experts in the particular subject at issue, and they would be subject to challenge for bias by the adversaries at the outset of the process.

The judges, unlike their legal counterparts, would not make policy decisions or recommendations. Instead, pointed out Presidential Science Adviser Guyford Stever, they would determine what are currently the most scientifically compelling arguments in such areas as:

—The matter of thresholds: At what level is an otherwise valuable food additive, pesticide, or other chemical dangerous to humans?

—The matter of time span between cause and effect: How can you determine that a substance is carcinogenic if it takes as long as 20 to 30 years after exposure for cancer to develop?

—Perhaps most difficult is the determination of technological safety, when the question hinges on not the concept or design of the technology but its construction and operation by fallible humans.

—It can also demonstrate the problem of arriving at certainty in science, and why we must sometimes accept and work with theories based on inconclusive evidence and take some action while we pursue greater certainty.

The experiment would start with the selection of an issue currently pending before a government agency. The issue must be both real and in current need of resolution as well as involving technical controversy that is important to the decision.

Next, a source of "untainted" funds must be found. "It is important to the experiment that the funds be both ample and that no one is perceived to have 'bought' the outcome through funding of the process," Simpson emphasizes.

Considerable doubt has been expressed about the wisdom of seeking funding directly from a government agency involved in the issue. Although such money could be given without strings, there might be an implication that the next time the Science Court came for funds the agency's decisions would depend on whether the first ruling was acceptable to it. Therefore, some suggest that initial funding come from the National Science Foundation. In addition to the NSF, a variety of other funding sources for the experiment, including private foundations or business sources would help insure independence.

However, it is important to have involvement of the agency in whose jurisdiction the issue falls, so that it can help in formulating the issue, advise on the procedure, and provide necessary power to compel release of relevant information.

Once an issue has been selected and funding obtained, the Presidential Advisory Board's recommended next step would be to choose the adversaries, or "case managers" for each side. For example, a group such as the Union of Concerned Scientists, the Sierra Club, and/or Friends of the Earth might represent the anti-nuclear power side of that issue. The Atomic Industrial Forum might well represent the side favoring nuclear energy, perhaps in alliance with other scientific groups.

A list of prospective judges certified as unusually capable scientists having no obvious connections to the disputed issue would be compiled. These would then be examined by the case managers for prejudice, and a selection made.

In addition to the panel of judges, there would be a referee, selected by the Science Court, who is concerned with the implementation of agreed procedures in a scientific setting. Under the Advisory Group's proposal, the referee would be a scientist advised by legal counsel, so that full responsibility for this procedure can be retained by the scientific community.

The issue selected for a trial run of the procedure will almost certainly be a value-laden controversial matter. The Advisory Board proposal lays out a step-by-step process by which factual questions under dispute can be isolated from the emotional.

The first step is the formulation by the case managers of a series of factual statements which they regard as most important to their case.

After examination by the referee or the judges to be sure that they are confined to statements of scientific fact, the statements would be exchanged between case managers. Each side would then accept or challenge each of the opposition's statements. Since the statements are drafted in the knowledge that they will be subjected to sophisticated challenge, it is hoped that exaggeration and vague language will be deemed counterproductive.

Challenged statements would first be dealt with by a mediation procedure in which attempts are made to narrow the area of disagreement or to negotiate a revised statement of fact that both case managers can accept. If this procedure fails, the challenge would be the subject of an adversary procedure.

The adversary proceeding will begin with a case manager's putting forth his substantiation of a challenged statement in the form of experimental data and theoretical calculations. This evidence will be subjected to detailed scrutiny by the judges. Since this is one of the most hotly-disputed points in the proposal, it is important to recognize that the applied rules of scientific procedure, and not the legal rules of evidence, will apply. There will be no necessity to prove the expertise of a witness, since all statements will be open to detailed challenge.

As currently proposed, the initial rules would be agreed upon by the case managers and changed only with the agreement of both case managers during the experiment.

An initial procedure is being drafted. However, the Science Court would not be bound by precedents but would continuously seek to refine its procedures.

Many of the concerns raised have been due to the proposal's attempts at drawing legal analogies.

Noted anthropologist Margaret Mead, for one, expressed strong reservations about the court model. She said that the concepts of a verdict, the adversary system, the idea that there could be judges who could give a verdict, and the notion that interest groups would finance the presentation of scientific evidence for their partisan advocacy, are all incompatible with the methods of science.

However, she endorsed the idea of a new mechanism which would supersede the present system of expert witnesses, and provide a method by which scientific uncertainties could be rendered intelligible and relevant to policy makers.

Only two alternatives?

Alan McGowan also found a fundamental difficulty in attempting to impose the legal model on scientific disputes. "The methodologies of both the scientific and legal professions have been well worked out to meet their different needs, and it should be no surprise that their methodologies are different," he said. "Although there are problems in each model, they cannot be solved by merging the two systems. The binary (yes/no) system called for in the legal process is rarely, if ever, applicable in scientific disputes. Forcing science into the binary mode would only ensure that many wrong decisions will be made, for the correct decision—a third or fourth alternative—would often not be included in the binary mode.

"The adversary model assumes loyalty to a 'side' with no requirement to give any evidence which might in any way benefit one's adversary. This is contrary to the spirit and procedure of science, and it is hard to see any real benefit. The imposition of this model will only polarize attitudes, harden positions, exclude third and fourth positions which might be the real answers, and put serious hurdles in the development of solutions.

"No administrator of scarce research dollars will be inclined to finance a proposal that is intended to challenge the decisions made by a Science Court. Yet the essence of science—and what leads to the important revolutions—are just such challenges," McGowan maintained.

Proponents of the idea point out that there are major differences between the Science Court and our existing legal institutions which hamper the drawings of analogies.

Basic is the fact that the Science Court will not render decision, it will render reports to a decision-maker, and make these reports available to the public-at-large.

The primary results to be expected are a series of factual statements. Some or most of these statements of fact will be qualified with statements about probable validity or margins of error. An important secondary consequence will be the lines drawn between areas where scientific knowledge exists and where it does not exist. Since important knowledge that is lacking will be pointed out, judgments will suggest areas where new research should be stimulated. In almost all cases the boundary between knowledge and ignorance will continuously shift, and revisions to take account of new knowledge may have to be made frequently when issues of great national importance are at stake.

Challenged statements would first be dealt with by a mediation procedure in which attempts are made to narrow the area of disagreement.

Thus, no matter what the Science Court has to say on any subject, the final court of appeal for scientific fact will always be the experiment.

Syracuse University, Sociology Professor Alan Mazur, proclaimed himself a strong proponent of an experiment, but an agnostic on the issue of a permanent institution for handling all such disputes. He said the original experiment should involve "at least four or five separate courts, each examining a different technical dispute. Clearly, one experiment by a single court wouldn't be too useful because we would have no way of saying whether the result was a general effect of such proceedings, or simply due to the peculiar circumstances that happened to come together in that one run.

"Perhaps this experiment would be too grand. A cheaper version would have only one court per issue, but that court would have several panels of judges, each panel operating independently, but all listening to the same evidence and arguments. Would these separate panels of judges come to similar conclusions? If not, I would find it difficult to support a permanent court. If the panels came to similar conclusions, then the notion of an objective court becomes more plausible."

Finally, the idea's advocates point out that it is not a device for creating decisions which are not needed or a consensus that is not attainable. "An experiment will only be convened at the request of an agency requiring scientific findings for a pending decision," points out Richard Simpson.

As for consensus, "I would not expect it," says Berkeley physicist John P. Holdren. "But this is precisely the point: policy-makers must stop waiting for consensus where none is possible and concentrate instead on how to minimize the social costs of uncertainty."

The proposed body would be for use where no real consensus has yet emerged, but where a decision *must* be made before it does emerge.

"We must realize that there is a time in all our technological and institutional development where we proceed to a course of action, rather than continue further exploration and improvement, knowing that what we create can and will always be improved upon," says Presidential Science Adviser Guyford Stever. "Something newer and better always comes along. But only a paranoid person or society does nothing because it fears failure or something less than perfection."

Energy Digest

BARNYARD BONUS . . . Coal combustion wastes could become an agricultural benefactor. Two federal agencies are cooperating in tests to evaluate the uses of wastes from new coal-fired boilers for fertilizer and soil treatment. Under an agreement with the Energy Research and Development Administration, the U.S. Department of Agriculture will evaluate agricultural uses of solid wastes from plants that burn coal mixed with limestone in a fluidized bed. That is, the coal and limestone are crushed and suspended in air. As the coal is burned, the limestone absorbs sulfur oxide pollutants. In a fluidized bed power plant, high sulfur coal could be burned cleanly. ERDA and industry are conducting research on the fluidized bed concept to bring it into commercial use.

STUDYING HOT SHIPMENTS . . . The Nuclear Regulatory Commission has initiated a two-year study to determine the environmental impact of radioactive material transported near and through large, densely populated areas. The NRC has selected Sandia Laboratories, Albuquerque, N.M. to analyze the effect of such shipments in regard to: —high population densities; —shielding effects of buildings under normal and accident conditions; —the effect of local meteorology on accident consequences; –the convergence of transportation routes in cities. The environmental analysis by Sandia will be used by NRC in developing its Generic Environmental Impact Statement, a draft version of which is to be issued in late 1977.

SHORTCUTS MEAN SAVINGS . . . By helping to reduce construction delays, a special task force has saved 17 electric utilities an estimated $300-$500 million. The Presidential Task Force on Power Plant Acceleration was established to assist in removing impediments to construction of electric utility power plants. It has provided, on request, expert technical advice to aid utilities and state and federal bodies in expediting the construction of approved projects that were being delayed. A Federal Energy Administration report indicates that construction delays were reduced by an average of three months for each power plant which was examined by the task force.

CORPORATE RESEARCH . . . More than 200 major energy research projects are being sponsored by 142 corporations, according to an ERDA-funded report by a non-profit survey organization called Inform. The companies, which range from big oil to prominent engineering firms, are finding ways to tap energy from the sun, fossil, and nuclear sources, as well as to get fuel from trash and industrial wastes. The likely environmental effects of these projects are included in the report. For example, giant facilities to convert sunrays into electricity could cause thermal pollution in some Southwestern water systems—similar to the thermal pollution around nuclear plants. For information write, Inform, 25 Broad St., New York, N.Y. 10004.

NEW CANNING PROCESS . . . ERDA has signed a six-month contract with the National Canners Association to evaluate the energy conservation potential and the effects on product quality of a new vegetable canning process, called vacuum blanching. ERDA also has contracted with the University of Arizona to demonstrate and evaluate a process that captures and re-uses exhaust heat from fruit dehydrators. The study will evaluate the effects of vacuum blanching on the quality of canned vegetables. Demonstration of the technique in a canning plant will be the next step, if the method shows promise. Preliminary analysis indicates that about 40 percent of the heat wasted by typical fruit dehydrators can be recovered with modern equipment, including devices that recirculate air, yielding annual energy savings equal to about 300,000 barrels of oil. Successful test results could lead to use of these modifications in dehydrating an estimated 25 percent of the nation's dehydrated fruit by 1980, and 100 percent by 1990.

ENERGY SITESEEING . . . The first of a four-volume energy travel guide has been published by ERDA to provide travelers with a tour of sites where energy history was and is being made. The 103-page Volume 1 Energy Trails: A Guidebook Describing Energy Sites, Power Plants, Science Museums, and Other Interesting Places, may be obtained free from ERDA, Technical Information Center, P.O. Box 62, Oak Ridge, Tennessee 37830.

BUT WILL IT SELL? . . . Successful commercialization of new solar, oil shale, or conservation technologies often depends on their reception in U.S. money markets. FEA has established a citizen committee to advise officials on projected changes in capital markets and on the impact government financial policies have on the country's domestic energy supply.

Innovative City Revival Plans To Get U.S. Grants

COMMERCE, LABOR AND HUD JOIN IN TEN-CITY PLAN THAT BRINGS PRIVATE SECTOR IN ON GROUND FLOOR

Ten cities have been selected for a unique demonstration which combines the pooled resources of three Cabinet departments with plans of local officials and business and community leaders to generate jobs and help revitalize the cities.

Taking part in the program which is sponsored by the Departments of Commerce, Labor and HUD, are Albuquerque, Baltimore, Bridgeport, Buffalo, Chicago, Dayton, Kansas City, Oakland, Philadelphia and Pittsburgh.

The qualifying cities, all with populations in excess of 150,000, and all with significant economic and unemployment problems, will be given federal grants totaling $4.82 million over the next two years to demonstrate innovative public/private solutions to their problems.

Nine of the ten will receive annual grants of $250,000 for the two-year period. Dayton, which submitted more modest plans, will get $160,000.

These grants, together with community, economic and employment and training development funds provided under existing programs, will add up to more than a billion dollars for these cities.

Chosen from among 30 competing cities, the ten have outlined a variety of improvements such as the creation of an economic development commission, loan and bond programs to raise capital, industrial development corporations, industrial parks, and neighborhood commercial revitalization ideas.

Most are creating a special office within the city government structure to bring together already-existing separate development programs and the private sector's resources.

Beyond the coordinating office, specific projects proposed include Oakland's one-stop business service center, which will get listings of available land or property suitable for industrial use from local industrial brokers and pass this information on to interested businesses.

Albuquerque is concentrating its economic development on what it calls its Central Corridor, a run-down central business district in need of help. The city is planning to close the corridor to heavy traffic and create a neighborhood commercial street. Creation of a pedestrian mall in the area is already under way.

The city hopes to use HUD block grant money to buy land in the Central area with old buildings on it at current market

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A Matter Of Integrity

Statement by Secretary of Commerce Elliot L. Richardson on the integrity of the Department of Commerce's economic data:

It is of utmost importance that public confidence in the integrity of economic data compiled by the Department of Commerce be maintained. Any suggestion that the Department of Commerce has willfully distorted economic statistics is false.

Furthermore, it is preposterous to assume that an error in any economic measurement would present a misleading picture of the economy as a whole. The general strength of the economic recovery that began in the spring of 1975 has been confirmed many times, month after month, by increases in such statistics as industrial production, which are figures issued by the independent Federal Reserve Board, and total employment, which are figures issued by the Labor Department.

Any suggestion that an error in government figures on total unfilled orders by itself would affect business decisions is misleading. It also reveals a lack of knowledge about how business decisions are made. An individual business would make decisions based on its own unfilled orders, not on those supplied in aggregate form by the government.

The survey of unfilled orders, like any survey involving hundreds of business firms, is subject to margins of error and revisions are fairly common. It is grossly unfair, however, to imply that the conscientious professionals at the Census Bureau have wilfully distorted economic statistics.

Statement by John W. Kendrick, Chief Economist of the Department of Commerce, on allegations that a statistical indicator of the Census Bureau, the M-3 Survey of Manufacturers Shipments, Inventories, and Orders, is misleading:

Recent accusations that the Commerce Department has been publishing inaccurate estimates of manufacturers' new and unfilled orders with the intent of deceiving business managements and the public with respect to the state of the economy are false and misleading.

It is true that the M-3 survey of manufacturers' shipments, inventories and orders has been under review for some time. As a result, steps have been taken to strengthen the sample of manufacturers covered, to improve the inventory estimates and to revise the orders series to correct any errors that may have developed. It is planned to publish the revised series as soon as is practicable before the end of the current year.

There is no basis at this time for speculation as to what difference, if any, the revised data would have made on business decisions which are based on many internal and external sources of information. It is a gross injustice to the conscientious statisticians of the Census Bureau to imply that the data were deliberately distorted for political or other ulterior motives.

The confidence which the public places in the integrity of the Census Bureau and other federal statistical agencies is fully merited.

rates, clear the land and sell it on a competitive bid basis to high density apartment builders. The city reasons that the construction will aid unemployment, and the apartment dwellers ultimately attracted will stimulate the central corridor's sagging economy.

Bridgeport, Conn., is aiming at its Long Island Sound waterfront with a novel overhaul of its municipal railroad station. The building will be turned into a specialty and ethnic food market as part of a planned revitalization of the downtown area. Two old theaters will also be rehabilitated.

The grants, along with other federal, state and local funds, and with the support of the private sector, will be used to stimulate new employment opportunities for the poor as well as moderate income groups.

Improving local economies by putting people back to work is not a new idea. What is new is this tripartite, cabinet-level effort which calls for involvement of the private sector right from the start. The public sector cannot offer the unemployed the kind of steady, long-term work they need. This program recognizes that the private sector must create those jobs and has the best chance to do so if it is brought in right at the start. It further recognizes that business cannot be expected to initiate the necessary development—and provides the funds needed to have local government do it.

The program is basically a research and demonstration effort. The ten cities chosen have agreed to document their experiences and make the record available to other cities with similar problems. The cities selected all have problems and proposed development plans that are common to many communities.

The Departments of Commerce, Labor and HUD have had development programs operating in cities across the country for several years. The year programs have much in common but have been run separately. The grants will enable each city to blend public and private efforts into one push for economic improvement and the creation of more jobs.

In the past, economic development at the local level often has been compartmentalized. This joint Community Economic Development program asks these ten cities to bring together—right from the start—their city governments and their businessmen in a joint effort to carry out specific projects.

Study Finds No Need For Special Federal Nuclear Security Force

The Nuclear Regulatory Commission has concluded that there is no need at this time to create a federal security agency within the NRC to protect commercial nuclear facilities from sabotage and nuclear materials from theft or diversion.

The recently-released study concludes that creation of a special security force within NRC would not result in a higher degree of guard force effectiveness than can be achieved through the use of private guards who have been properly trained and certified. The study identifies means by which guard forces could be upgraded through imposing new requirements under current authority and lists actions for which new legislative authority might be required.

The projected nuclear industry covered by the study consists of privately and publicly-owned facilities, most of which are involved in the production and use of nuclear materials as fuel for electric generating plants. It also includes related transportation activities.

Companies licensed by the NRC to conduct such activities are already required to have an NRC-approved physical protection program which includes armed guards, barriers, communications capabilities with response forces, and detection, monitoring, and alarm systems to prevent intrusion of individuals and unauthorized removal of material. NRC is currently reviewing safeguard requirements to determine whether further upgrading is necessary.

Sixteen criteria based on consultants' reports were used to compare the effectiveness of private and federal guard forces, including: general and local security knowledge; mental and physical fitness; alertness; motivation; arrest power; authority to use deadly force; chain of command and controlability during crisis; compatibility in normal operations; liaison with offsite forces; and weapons.

Other issues considered in the study were: the role of offsite reaction forces; administrative implications for licensees and NRC; and the possible use of federal security forces from other agencies.

The study compared the possible comparative impacts on civil liberties of a federal guard force and of private guard forces, and concluded that no difference could be discerned.

A copy of the study, designated NUREG-0015, has been placed in the Nuclear Regulatory Commission's Public Document Room, 1717 H St., NW., Washington, D.C., where it is available for public inspection. Copies may be purchased from NTIS, Springfield, Va. 22161 for $6 each.

Energy-Altered Indoor Environments' Impact On Human Comfort Probed

Besides conserving energy and money, what other effects are the building modifications and new thermostat settings having on the comfort of Americans?

A Feb. 11 symposium at Commerce's National Bureau of Standards will explore the impact of energy conservation strategies and new building designs on the thermal comfort of people indoors.

The "Symposium on Thermal Analysis-Human Comfort-Indoor Environments," will bring together leading manufacturers, scientists, engineers, government officials and architects interested in how new energy conservation modifications to buildings will affect human comfort and what type of measurement technology will be required to assess these effects.

Sponsored by the NBS Institutes for Basic Standards and Applied Technology, the symposium is prompted by the increasing emphasis on energy conservation practices in existing buildings as well as new building designs that emphasize energy conservation.

Some of the practices have no effect on the thermal comfort of occupants. However, others, such as limiting the use of both cooling and installed capacity of heating, ventilating, and air conditioning equipment, lower thermostat settings in winter, higher thermostat settings in the summer and eliminating climate control in halls, entryways, and storerooms may have an adverse effect on occupants.

Although the effect of a given energy strategy on the total energy requirements of the buildings is relatively easy to predict, very little data are available to assess the effects of the resulting indoor climate on the comfort of occupants.

The symposium will attempt to examine these issues by identifying:

- Characteristics of indoor climates that result from various types of energy conservation measures;
- Characteristics of heat stress in such environments as ships' firerooms, machinery spaces, and foundries;
- Research needs in the area of physiology that could lead to the specification of acceptable conditions;
- Contributions that could be made by modeling human responses to specific environments;
- Could studies of human subjects be made in controlled environment chambers . . . or would testing in real environments be necessary?
- What new demands are placed on the field of instrumentation in order to correctly assess and characterize environments?

Additional information is available from the symposium co-chairmen: Dr. B. W. Mangum, B122 Physics Building, 301-921-2098, or J. E. Hill, B104 Building Research Bldg, 301-921-3512, National Bureau of Standards, Washington, D.C. 20234.

INCOMES, PRICES GREW AT ALMOST THE SAME RATE DURING 1975

Rising personal incomes and consumer prices staged a nip-and-tuck race during 1975. Prices won. But not by as much as it might have seemed to some consumers.

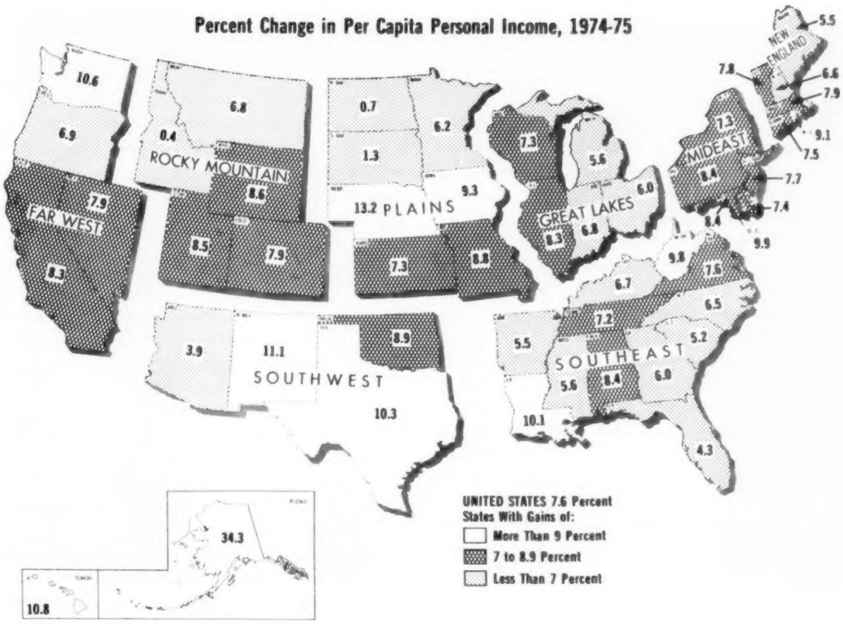
Nationally, per capita income increased by 7½ percent, while the gain in consumer prices was held to only 8 percent in 1975, according to Commerce's Bureau of Economic Analysis.

On a state-by-state basis, Alaska's pipeline-spurred economy had by far the largest per capita income, $9,448, while Mississippi had the lowest, $4,052. The national average was $5,902.

Everyone gained

Total personal income rose in all 50 states and the District of Columbia. Nationally, the rise was 8½ percent. The income rise was bolstered by a 24 percent increase in transfer payments. Excluding transfer payments, U.S. income rose only 6¼ percent.

Mining payrolls advanced 19½ percent, reflecting increased activities in coal mining and oil exploration. Manufacturing payrolls advanced only 1¼ percent. Small declines were recorded in primary metals, electrical machinery, furniture, and textiles. Construction payrolls and farm income were each off about 3 percent. Differences among the states in the performance and relative importance of these industries explain nearly all state variations in total income gains.



Percent Change in Per Capita Personal Income, 1974-75

States with strong gains

In 12 states, gains in total personal income were especially vigorous, ranging from 38½ percent (Alaska) to 10 percent (Oklahoma). The other states in this group, in descending order of gain, were New Mexico, Nebraska, Wyoming, Texas, Washington, Hawaii, Nevada, Utah, Louisiana, and West Virginia. Gains were industrially widespread and, in many instances, were well above the national average in manufacturing, mining, construction, and service-type enterprises.

Increases in wages and salaries were above the national average in all 12 states in manufacturing. Construction was strong in all except Nevada and Oklahoma. Mining income rose 20 percent or more in West Virginia, Alaska, Wyoming, New Mexico, and Texas. Services were strong in all 12 states. Because of the strength in their economies, advances in government unemployment insurance benefits were well below the U.S. average increase of 160 percent except in Nebraska, Oklahoma, and Texas.

States with weak gains

At the other end of the spectrum, in ten states, income gains ranged from one-half of 1 percent (North Dakota) to 6¾ percent (Minnesota, South Carolina, and Indiana), and real income was down. The other states of this group, in ascending order of gain, were South Dakota, Idaho, Michigan, Ohio, Mississippi, and Maine.

Sharp declines in farm income helped keep the income gains small in Maine, Idaho, Mississippi, South Dakota, North Dakota, Minnesota, and South Carolina. In Ohio, Indiana, and Michigan, small decreases in manufacturing payrolls, mainly due to declines in primary and fabricated metals and in electrical and

Per Capita Income Rank of States, 1975

	Amount ($)	% of nat'l. avg.	$ diff. from avg.
United States	**5,902**	**100**	—
Alaska	9,448	160	3,546
Dist. of Col.	7,742	131	1,840
Connecticut	6,973	118	1,071
Illinois	6,789	115	887
Delaware	6,748	114	846
New Jersey	6,722	114	820
Hawaii	6,658	113	756
Nevada	6,647	113	745
California	6,593	112	691
New York	6,564	111	662
Maryland	6,474	110	572
Washington	6,247	106	345
Michigan	6,173	105	271
Wyoming	6,131	104	229
Massachusetts	6,114	104	212
Nebraska	6,087	103	185
Iowa	6,077	103	175
Kansas	6,023	102	121
Colorado	5,985	101	83
Pennsylvania	5,943	101	41
Rhode Island	5,841	99	−61
Ohio	5,810	98	−92
Minnesota	5,807	98	−95
Virginia	5,785	98	−117
Oregon	5,769	98	−133
North Dakota	5,737	97	−165
Wisconsin	5,669	96	−233
Indiana	5,653	96	−249
Florida	5,638	96	−264
Texas	5,631	95	−271
Missouri	5,510	93	−392
Montana	5,422	92	−480
Arizona	5,355	91	−547
New Hampshire	5,315	90	−587
Oklahoma	5,250	89	−652
Idaho	5,159	87	−743
Georgia	5,086	86	−816
Vermont	4,960	84	−942
North Carolina	4,952	84	−950
South Dakota	4,924	83	−978
Utah	4,923	83	−979
West Virginia	4,918	83	−984
Louisiana	4,904	83	−998
Tennessee	4,895	83	−1,007
Kentucky	4,871	83	−1,031
Maine	4,786	81	−1,116
New Mexico	4,775	81	−1,127
Alabama	4,643	79	−1,259
Arkansas	4,620	78	−1,282
South Carolina	4,618	78	−1,284
Mississippi	4,052	69	−1,850

nonelectrical machinery, were the dominant factors. Construction payrolls were off sharply in South Carolina, Michigan, and Mississippi.

Because of industrial weakness, gains in services were well below the national average in South Carolina, Indiana, Ohio, and Michigan, and close to the national average in Minnesota.

Total personal income consists of private and government wage and salary payments in cash and in kind, other labor income, farm and nonfarm proprietors' income, interest, net rents, dividends, and transfer payments, less personal contributions for social insurance. It is measured before the deduction of personal income and other personal taxes and is reported in current dollars (no adjustment is made for price changes).

Per capita income equals total personal income divided by total population.

Recession Cut Real Median Income, Dropped 2.5 Million Americans Below Poverty Line

Newly-released figures give some idea of the overall impact of the recent economic slump on the income of Americans.

Median income of U.S. families adjusted for inflation decreased by 3 percent between 1974 and 1975, according to Commerce's Bureau of the Census. During the same period, the total number of persons below the low-income or poverty line increased by 2.5 million or 10.7 percent, according to a nationwide survey taken last March.

The report indicates that the median family income in 1975 was $13,720, 6 percent above the revised 1974 figure but about 3 percent below the 1974 median when adjusted for the 9.1 percent increase in prices between 1974 and 1975. The total number of persons below the poverty line increased from 23.4 million in 1974 to 25.9 million in 1975. This was the largest single-year increase since poverty data became available in 1959. The poverty level for 1975 was $5,500 for a nonfarm family of four.

The decline in real median family income and increase in the number of poor during 1975 was a reflection of several factors: a 2 percent decline in real gross national product (GNP), an increase in the average national unemployment rate from 5.6 percent in 1974 to 8.5 percent in 1975, and an increase in the number of persons who exhausted their unemployment benefits in 1975.

White families in the U.S. had a median income of $14,270 in 1975, black families had a median of $8,780, and families with a head of Spanish origin had a median of $9,550.

The survey data indicate that this represents a 3 percent decline in real median income for white families and an 8 percent drop for families with a head of Spanish origin. Although the data indicate no significant change in real median income for black families, sampling variability was too large for Bureau statisticians to be sure whether a change actually occurred.

The median income for men in 1975 was $8,850; for women the median was $3,390. Adjusted for inflation, the 1975 median for men was about 4 percent below 1974, while there was no significant change in the median for women.

The survey further shows that about 1.4 percent of U.S. families received $50,000 or more in 1975, that nearly 26 percent received $20,000 or more, and that about 44 percent received at least $15,000. About 25 percent received less than $8,000, however.

The number of white persons below the poverty level increased by two million, or 13 percent, and the number of blacks by 363,000, or 5 percent. Poor persons of Spanish origin increased by 16 percent, but the small sample size for this group precludes any comparison of their percentage change to that for blacks and whites. The report notes an increase of 11 percent in the number of poor persons under 65, and increased numbers of poor 65 years and older.

The number of families in poverty increased from 4.9 to 5.5 million between 1974 and 1975. The increase in poor families occurred mainly among those headed by a male, which increased by 16 percent, from 2.6 to 3.0 million. Poor families headed by a female increased by 5 percent, from 2.3 to 2.4 million families.

Copies of the report, *Money Income and Poverty Status of Families and Persons in the United States: 1975 and 1974 Revisions*, Series P-60, No. 103, may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 or from Commerce District Offices in major cities of the U.S. for $1 a copy.

Researchers Question Danger Of Lead-Base Paint

Researchers are questioning the long-held assumption that lead poisoning among small children is mainly caused by eating lead-based paint.

Although lead-paint should still be considered a health hazard, a survey in the Pittsburgh area conducted by Commerce's National Bureau of Standards for the Department of Housing and Urban Development showed no correlation between the paint found in homes and blood lead levels. The study did reveal that children living in the oldest buildings, regardless of the kind of paint, had the highest concentrations of lead in their systems. The reason is still unclear.

The survey data were gathered over the period of a year by teams from the Allegheny County Health Department under contract to NBS. The teams used portable X-ray instruments to measure lead levels in paint on walls and other exposed surfaces in some 4,000 living units and took blood samples from a total of 456 children seven years old and younger.

This work represents the most comprehensive and statistically valid survey and analysis of the lead poisoning problem ever undertaken in a major metropolitan area, according to NBS.

The Bureau has developed a manual for use by local officials in performing lead paint surveys. Titled "Survey Manual for Estimating the Incidence of Lead Paint in Housing," it is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Ask for NBS Technical Note 921; the price is $2.20.

NBS Referral Service To Spur Private Sector Mechanical Testing

Commerce's National Bureau of Standards is initiating a national referral service for industrial academic and engineering organizations requiring high-capacity mechanical testing.

This Mechanical and Structural Testing and Referral Service (MASTARS), is presently compiling a comprehensive MASTAR FILE of all U.S. mechanical testing facilities with capacities exceeding 4.4 million newtons (one million pounds-force), which are available for contract work.

The new service parallels and strengthens the testing and research program which NBS now offers with 12 million pounds-force universal testing machine. This unique facility, considered to be a national resource, is available for use, at cost, to the entire U.S. technological community for work that cannot be done by the private sector.

Prior to inauguration of MASTARS, requests for research and testing services were refused by NBS when required capabilities were available in the private sector. Now, to aid the requester and to stimulate private research and testing, the Bureau will direct inquiries, on an impartial basis, to private laboratories with those capabilities.

To be included in the MASTAR FILE or to obtain NBS research and testing services, interested parties should write MASTARS, EM 219, National Bureau of Standards, Washington, D.C. 20234, or call program manager A. F. Kirstein at 301-921-2621.

Subsidy Keeps Tug-Barge Construction In U.S. Shipyards

Commerce's Maritime Administration has awarded fixed-price contracts totaling $42.5 million for the construction of two integrated tug-barge vessels. Coordinated Caribbean Transport, of Miami, will operate the vessels in service between Miami and Central American ports.

The two integrated vessels will each consist of one barge and one tug. The barges will be built for an estimated total cost of $28.7 million by Manhattan Barge I, a subsidiary of Seatrain Shipbuilding Corp. The tugs will be built in Marinette, Wis. by the Marinette Marine Corp. at an estimated total cost of $13.8 million.

The Maritime Administration will pay 38.05 percent of the construction costs. This disbursement, which will total $16.15 million, represents the difference between the cost of building the vessels in this country and of building identical vessels in Japan, which is the world's lowest-cost shipbuilding center.

First for Great Lakes

This is the first time that a Great Lakes shipyard will participate in the program of subsidizing the construction of vessels destined for service in the U.S. foreign trade.

The ships are known as ARTUBAR (Articulated Tug/Barge) vessels. The tug and barge are connected by means of pins jutting out from either side of the tug's bow. The pins fit into sockets in the recessed stern of the barge. They can rotate in the sockets, allowing the tug to pitch relative to the barge. As an added safety feature, these pins can also retract rapidly, so that the tug and barge can disconnect quickly when necessary.

The 568-foot-long barges will be triple-deck roll-on roll-off vessels that can accommodate automobiles, trailers or other wheeled vehicles. These vehicles will be driven on or off via a bow ramp or through sideports. Each barge will have the capacity for 165 forty-foot-long trailers, including refrigerated units. The approximate gross tonnage of each barge will be 14,000 long tons. The service speed will be 15¼ knots.

The project will provide approximately 760 man-years of employment for shipyard workers and an equal amount of employment for workers in the allied marine supply industry.

SOUTHERN LOUISIANA BUSINESSMEN HONORED—*Featured speakers at a recent awards ceremony held in New Orleans honoring three Southern Louisiana businessmen and the Amoco Production Company were Alex Armendaris, second from left, Director of the U.S. Department of Commerce Office of Minority Business Enterprise (OMBE) and Mrs. Lindy Boggs, member of Congress from Louisiana. Minority businessmen honored at the luncheon were, from left: Ronald Griffith, Lyle Mouton, center, and Jules Alsandor. Amoco Production Company received a Commerce Department Award of Excellence for its minority business enterprise program, which assisted the three. Griffith, a former Amoco employee, formed a construction company for work at drilling sites. His initial contracts came from the Standard of Indiana subsidiary. Mouton, whose story was featured in the last issue of this publication, is also a former employee of Amoco Production Company. His Circle M Supply Company, formed with assistance from Amoco, now does a $1 million a year business providing oil field equipment to several national oil exploration companies. Alsandor received contracts from Amoco Production Company for catering services to offshore drilling sites. He also provides transhipment of deck cargo to offshore sites. In making the award, Armendaris said "Perhaps we are long overdue in recognizing the significant contributions of the private sector to the national effort for parity for minority business. Our industry recognition program will try to seek out companies whose contribution has been significant, and these companies will be recognized, publicly, for their effort."*

Local Solutions Now Allowed In Product Safety Cases

In many instances, minor consumer product safety law-violations can now be resolved at the local level.

The U.S. Consumer Product Safety Commission has delegated to its area offices authority that should speed enforcement and compliance activities involving violation of laws concerning labeling of hazardous substances and child-resistant packaging.

The new procedures are a pilot program and they provide mechanisms for review of area office decisions.

The action became effective October 1, and will allow the area offices to close cases in which the labeling violations are minimal and corrective actions have been taken by violators. The new procedures should bring about increased compliance under the Federal Hazardous Substances Act and Poison Prevention Packaging Act, both administered by the agency, while at the same time, avoid generating a large amount of paperwork or forwarding this paperwork to Washington for review. The new ruling is designed to permit the Commission's staff to devote more resources to cases involving more serious threats to consumer safety.

In the initial stage of the Commission's existence, cases prepared in the field were sent to Washington for approval before they were either forwarded for prosecution or closed. This procedure was used to insure uniform administration of the law. Based upon its own internal study and a report of the Comptroller General, the Commission has concluded that Area Offices now have the experience necessary to decide which cases should be pursued and which should be closed.

The CPSC is an independent federal regulatory agency which has been assigned the primary mission of reducing the risk of injury associated with consumer products.

MORE MEANINGFUL DATA HIGHLIGHT 1977 AUTO FUEL ECONOMY REPORT

One of the Federal Government's perennial bestsellers—the annual mileage guide giving fuel economy performances figures for the new model cars—is almost ready to come off the presses.

A joint effort of the Environmental Protection Agency and the Federal Energy Administration, more than twelve and a half million copies of the 1977 Gas Mileage Guide are being printed for distribution to approximately 25,000 new car dealer showrooms between mid-October and November 1.

EPA performs the gas mileage tests for each new model car at its Ann Arbor, Michigan laboratories. FEA prints and distributes the Gas Mileage Guide.

The Energy Policy and Conservation Act requires that automobile dealers make available in their showrooms copies of the 1977 Mileage Guide. Dealers must display the guides prominently and keep a sufficient stock on hand for prospective car buyers.

One of the principal changes in the 1977 guide is that all vehicles are divided into different size classes, according to their interior size. This will help the car buyer compare the fuel economy of similar-sized vehicles. Automobiles are divided into sedans, station wagons, and two-seaters.

Within the sedan grouping, the classes are:

Subcompact—cars having up to 100 cubic feet of passenger and luggage space.

Compact—cars having 100 to 110 cubic feet

Mid-size—cars having 110 to 120 cubic feet.

Large—cars having more than 120 cubic feet.

The station wagons are:

Small—less than 130 cubic feet of passenger and cargo space.

Mid-size—between 130 and 160 cubic feet inside.

Large—160 or more cubic feet inside.

Another new addition to the guide is the estimated average annual fuel cost for each car. This figure is an estimate of what a new car buyer will pay for fuel in one year, driving 15,000 miles and paying 65 cents per gallon for gasoline, or 55 cents per gallon for diesel fuel.

Mandatory labels

The Act also makes mandatory for the first time that all new 1977 and later model year automobiles, and light trucks, at the time they are offered for sale, carry a label disclosing their fuel economy, the average annual fuel cost for operating the vehicle, and the range of fuel economies of comparable class. Manufacturers are required to affix and dealers are required to maintain the sticker labels on a side window of the vehicle. In previous years, many automobile manufacturers participated in a Voluntary Fuel Economy Labeling Program.

A separate miles-per-gallon booklet entitled, "1977 California Gas Mileage Guide for New Car Buyers" will be published and made available for vehicles sold in that state. Many cars are specially designed for sale in California, which has tougher auto exhaust standards, and are different from vehicles sold elsewhere in the United States.

To obtain single copies of the 1977 Gas Mileage Guide (or the California edition) write after Nov. 1: Fuel Economy, Pueblo, Colo. 81009.

For bulk copies of either guide write after Nov. 1: Fuel Economy, Federal Energy Administration, DPM Room 6500, Washington, D.C. 20461.

Productivity Declined More In Europe, Japan Than In U.S.

Manufacturing productivity, as measured by output per hour, declined more in Japan and most Western European countries than in the United States during the recent worldwide recession, according to preliminary estimates from the Bureau of Labor Statistics of the U.S. Department of Labor.

With the exception of the Federal Republic of Germany, unit labor costs measured in national currencies rose more rapidly in all countries than in the United States.

The Bureau's preliminary estimates for 1975 are based on current economic indicators and are subject to later revision as more complete data become available.

U.S. manufacturing output declined in 1974 and continued to fall until the third quarter of 1975. Productivity fell less than output, however, because of a large decline in aggregate hours.

Manufacturing output also began to decline in 1974 or early 1975 in all of the foreign countries. Output began to increase by the second quarter of 1975 in Japan, and by the end of the year in Canada, France, Germany and Italy.

In Sweden and the United Kingdom, output did not begin to rise until early 1976.

As in the United States, productivity fell along with output and turned upward shortly before the rise in output in the other countries.

Overall, productivity fell less than 1 percent in the United States between 1974 and 1975, compared with declines of 1.5 percent in the United Kingdom, 3 percent in Japan, and larger declines in France and Italy. While the United States had one of the largest declines in manufacturing output, productivity fell less in the United States because there was a corresponding drop in aggregate hours. Sweden had the smallest output decline (−2.2 percent) among the eight countries, and productivity was unchanged from 1974 to 1975.

On the other hand, productivity increased in Canada and Germany, but only because hours fell more than output between 1974 and 1975. Germany experienced a drop in manufacturing aggregate hours even sharper than the United States.

With the exception of Germany, hourly compensation advances from 1974 to 1975 in foreign countries exceeded those in the United States by substantial margins. The increases ranged from 16 percent in Canada to almost 30 percent in Italy and the United Kingdom. The 11.6 percent increase in Germany was only slightly greater than the U.S. increase of 10.4 percent.

Because of the large advances in hourly compensation and declining productivity, unit labor costs rose much more rapidly in all other countries than in the United States, except in Germany and Canada. The increases in unit labor costs ranged from 19 to almost 35 percent in most European countries and Japan. Unit labor costs in West Germany and Canada were similar to the 11.1 percent U.S. rise, as productivity gains offset part of the compensation advances.

Shifts in currency exchange rates increased unit labor costs for Germany, Sweden, and France an additional 5 to 12 percent in terms of the U.S. dollar, while for the other countries currency changes lowered unit labor costs in U.S. dollar terms.

Report Lists Solar Energy Laws Passed By States

Ten states now have legislation providing property tax incentives to homeowners for installing and using solar energy systems.

This is one of the findings in a report just published by the National Bureau of Standards, *A Survey of State Legislation Relating to Solar Energy* was undertaken by the NBS Center for Building Technology to help ensure that the results of state activities are incorporated into federal standards development programs.

The 166-page document contains detailed information on 34 bills enacted by 23 states in 1974 and 1975. Last year alone, 20 or 120 state legislation proposals dealing with application of solar energy to buildings were enacted dealing with diverse subjects. Most provide a monetary incentive for the conversion to or initial use of solar energy to provide building heating, cooling or hot water. This incentive is usually provided by a reduced property assessment, an income tax reduction, or in a sales, use or corporate exemption.

Other bills authorize building code provisions or standards, research and development, state building uses of solar energy, easement or zoning requirements, and building state solar energy centers.

The ten states with legislation providing tax incentives to homeowners are Arizona, Colorado, Illinois, Indiana, Maryland, Montana, New Hampshire, North Dakota, Oregon and South Dakota. Arizona and New Mexico also provide income tax incentives.

Fifteen states provide for state support of solar energy reseach and development: Arizona, California, Colorado, Florida, Hawaii, Iowa, Maine, Michigan, Montana, Nevada, New Mexico, New York, North Carolina, Ohio and Virginia.

The report includes the number of each of the 34 acts, the approval and effective date, a brief abstract, the legal citation and the responsible state agency and state official. Supporting forms, instructions, and the complete legislation or pertinent pages of the legislation are also included.

Single copies are available from Robert M. Eisenhard, Center for Building Technology, National Bureau of Standards, Washington, D.C. 20234.

TARGETED FEDERAL FUNDS HELP HARD-HIT AREAS SHARE IN ECONOMIC RALLY

As the economic recovery continues apace, Commerce's Economic Development Administration is helping communities across the nation share in the general gains.

A sampling of recent grants and loans approved by EDA follows.

A $7.5 million working capital loan will help the Todd Shipyards Corporation meet operating costs at its shipyards in Alameda, Los Angeles, Galveston and Seattle. All of those cities have been designated for EDA assistance because of high unemployment levels. The agency is also extending for a year its five-year guarantee of a $22.5 million working capital loan of April 1975.

A $6.4 million grant to the Commonwealth of Massachusetts to help carry out an adjustment program and stimulate long-range growth for the fishing industry in Gloucester. Massachusetts officials anticipate that as long as five years may be required for Gloucester to regain the economic viability it enjoyed prior to the early 1960s when changes in international fishing practices undercut the market position of the New England industry.

A $6.2 million grant, to help convert portions of a Lewistown, Pa., rayon plant which has been closed since tropical storm Agnes flooded the area in 1972, into a modern industrial facility. The Mifflin County Commissioners will provide another $2 million to the project, under which 28 buildings in the complex will be renovated, damaged and obsolete facilities will be demolished, water and sewer systems will be upgraded and the area will be landscaped. Feasibility studies will help determine the industries most likely to establish or expand operations at Lewiston.

A $10.5 million grant to the City of Baltimore is helping to overcome the economic dislocations and high unemployment caused by the closing of Fort Holabird and hiring cutbacks by several other major employers in the city. The city is providing another $3.1 million and the Maryland Port Authority $2.9 million to the project which will center on street improvements essential to port service and a new $5.4 million freight terminal for the Maryland Port Administration.

Two grants totaling $6 million are assisting an economic adjustment program to save 300 jobs on the Menominee Indian Reservation in Wisconsin. The project involves renovation of the tribal enterprise's sawmill at Neopit. The funds will enable Menominee Tribal Enterprises to employ a management firm during the construction period and for three additional years.

A $10 million grant to help New York State implement an economic adjustment program designed to save more than 2,000 jobs. The New York Department of Commerce will lend the funds to Al Tech Specialty Steel Corporation to help purchase the Bar Products Division of Allegheny Ludlum Steel Corporation. Purchase of the plant by the Al Tech Corporation will save more than 2,000 jobs, since Allegheny Ludlum Corporation had proposed to close the facilities. The State Department of Commerce will use the repayments from Al Tech to establish a revolving loan fund of low interest, long-term financial assistance for economic development projects in Chautauqua and Albany counties.

A $5 million grant to the Coastal Area Planning and Development Commission of Brunswick, Ga., to help an employee stock option trust acquire 51 percent of the stock of Sea Pak, Inc., a division of W. R. Grace & Co. W. R. Grace officials has announced plans to sell the SeaPak operation or close the facility. SeaPak, with processing plants at Brunswick, employs 558 persons from the coastal Georgia region. W. R. Grace is extending a $4 million loan for the project and National Home Products, Inc., is investing $2 million, which will be used for working capital. The economic adjustment assistance plan calls for the employees to become majority stockholders through acquisition of stock from the trust after eight years.

A $3.5 million loan to help a Roane County, Tennessee, steel mill increase operations and create 246 new jobs. The Tennessee Forging Steel Corporation of Harriman, a manufacturer of bar steel and shapes for the construction industry, will use the loan for working capital to increase production.

A $1 million loan to help establish a fruit processing facility and create 150 jobs in central California. Jovista Cold Storage, of Delano, will use the funds to construct and equip a plant in the Delano-Earlimart area for storing and processing grapes and other fruits. Firm officials estimate that the equivalent of 150 year-round jobs will be created at the facility, with a majority of the new workers representing minority groups. The jobs of another 1,300 workers who harvest the fruits are dependent upon construction of the facility.

A $1 million grant to the Price River Water Improvement District of Carbon County, Utah, for a water line which will be needed to meet anticipated population growth in connection with the development of energy resources in the area. The Water Improvement District is providing the other $3.1 million which will be required.

A $652,650 grant to help stimulate long-range economic growth and create jobs in Lewis and Clark County, Montana. The Joint City-County Airport Board, as an agent for the City of Helena and County of Lewis and Clark, will use the funds to help construct a commercial aviation terminal complex at the Helena Airport. An industrial park is being developed south of the airport in another phase of the long-range program.

A $3.9 million grant to help stimulate long-range industrial growth and create jobs in an inner-city area of Milwaukee. The city will use the grant to help improve vehicular access and other facilities serving the Menomonee River Valley Industrial Area, located just south of the city's central business district. Officials report that the project will eliminate traffic hazards which have restricted development of the industrial section and will improve access to other business and commercial areas in Milwaukee.

Calendar Of Business Events

Oct. 13-14—Gaithersburg, Md. — Symposium on Procurement Practices, National Bureau of Standards. Sponsors: NBS and General Services Admin. For information, Joseph Berke, Experimental Technology Incentives Program, A 735, Admin. Bldg., NBS, Washington, D.C. 20234 (301-921-3171).

Oct. 13-15 — San Francisco — Fundamentals of Finance and Accounting for the Non-Financial Executive, Fairmont Hotel & Tower. Sponsor: The Wharton School. For information, Heidi Kaplan, New York Conference Mgt. Ctr., 360 Lexington Ave., New York 10017 (212-953-7262).

Oct. 14—Nov. 4—Houston—Computers in Small Business: Increase Productivity and Profits weekly course. Sponsor: Rice University. For information, Office of Continuing Studies, Rice U., Houston, Tex. 77001 (713-527-8101).

Oct. 15—Tulsa — Business Opportunity/Federal Procurement Conference, Sheraton Inn-Skyline East. Sponsor: U.S. Rep. James R. Jones. For information, Jerry Conrey, c/o Rep. Jones, 4536 Fed. Bldg., Tulsa, 74103. (918-581-7111).

Oct. 16—Madison, N.J. — 13th Annual Patent Institute, Fairleigh Dickinson Univ. For information, Joseph Tramutola, Jr., Fairleigh Dickinson Univ., 285 Madison Ave., Madison, N.J. 07940 (201-377-4700).

Oct. 17-21—Philadelphia—American Assn. of Port Authorities annual convention, Bellevue-Stratford Hotel. For information, AAPA (202-331-1263).

Oct. 18-19—Chicago — Modern Alternatives to Franchise Marketing, Hyatt Regency O'Hare. Sponsor: New York Univ. For information, Heidi Kaplan, N.Y. Conf. Mgt. Ctr., address above.

Oct. 18-19—Montreal, Que. — Proposed Preparation and Source Selection Seminar, Hotel Bonaventure. Sponsor: American Insitute of Aeronautics & Astronautics/Los Angeles Section. For information, AIAA Seminars, Suite 1403, 444 W. Ocean Blvd., Long Beach, Calif. 90802, (213-437-7465).

Oct. 18-19—New York—Current Developments in Environmental Regulation and Litigation, St. Moritz Hotel. For information, Practising Law Institute (212-765-5700).

Oct. 18-19—New York—Transportation of Hazardous Materials by Air seminar, International Hotel, JFK Int'l Airport. For information, Lou Maripolsky, Flying Tiger Line, Cargo Bldg. #262, JFK Int'l Airport, Jamaica, N.Y. 11430 (212-632-1121).

Oct. 18-20 — Chicago — Managing EDP Personnel, Univ. of Chicago. For information, Heidi Kaplan, New York Conference Mgt. Ctr., see address above.

Oct. 18-20—Houston—Solar Energy for Domestic Heating and Air Conditioning, Warwick Hotel. Sponsor: New York Univ. For information, Heidi Kaplan, New York Conference Mgt. Ctr., see address above.

Oct. 18-20—New York—Research & Development Mgt. seminar, Barbizon Plaza Hotel. Sponsor: New York University. For information, Heidi Kaplan, N.Y. Conference Mgt. Ctr., see address above.

Oct. 18-20—San Diego—Machining Seminar, Islandia Hyatt House. Sponsor: New York Univ. For information, Heidi Kaplan, N.Y. Conference Mgt. Ctr., see address above.

Oct. 18-21—Orlando, Fla.—Fire Retardency in the Construction Industry, Walt Disney World. For information, Fire Retardant Chemicals Assn., Suite 800, 1001 Connecticut Ave. NW., Washington, D.C. 20036 (202-452-1531).

Oct. 18-22—San Francisco — Fundamentals of Plastics, Burlingame Hyatt House. Sponsor: New York University. For information, Heidi Kaplan, New York Conf. Mgt. Ctr., address above.

Oct. 19-20—San Francisco—Energy Management in Buildings, Holiday Inn Golden Gateway. Sponsor: New York Univ. For information, Heidi Kaplan, New York Conference Mgt. Ctr., see address above.

Oct. 19-20—Washington—Economics and Marketing of Plastics Conference, Hotel Washington. For information, Al Evans, Society of the Plastics Industry, Inc., 355 Lexington Ave., New York 10017 (212-573-9400).

Oct. 19-21—Cleveland—Controlling Noise Hazards in Manufacturing, Sheraton Hopkins Airport Hotel. For information, Jim Meadows, Society of Manufacturing Engineers, P.O. Box 930, Dearborn, Mich. 48128 (313-271-1500).

Oct. 19-21—Las Vegas—8th Annual Automotive Parts & Accessories Assn. Show, Convention Center. For information, AAPA, 1730 K St. NW., Washington, D.C. 20006 (202-833-3450).

Oct. 19-21—St. Paul, Minn. — Minnex Electronic Manufacturing Conference and Exhibits, St. Paul Hilton Hotel. Sponsor: Society of Manufacturing Engineers. For information, SME, P.O. Box, 930, Dearborn, Mich. 48128 (313-271-1500).

Oct. 19-21—Washington—Finance & Accounting for Non-Financial Managers, Georgetown Univ. For information, Betsy Girton, Continuing Mgt. Education, Georgetown Univ., RCA Bldg.-Education Ctr., 1901 N. Moore St., Rosslyn, Va. 22209 (703-525-6300).

Oct. 24-26—Andover, Mass.—Business & Investment Opportunities in Distributed Data Processing Systems, Andover Inn. For information, Institute for Graphic Communication, Inc., 375 Commonwealth Ave., Boston, Mass. 02115 (617-267-9425).

Oct. 24-26—Carmel, Calif.—Prospects for Micrographic Systems, Highlands Inn. For information, IGC, address above.

Oct. 24-27 — Hanover, N.H. — Smaller Business Assn. of New England Executive Seminar, Dartmouth College. For information, Julie Scofield, SBANE, 69 Hickory Dr., Waltham, Mass. 02154 (617-890-9070).

Oct. 25-29—Chicago—Bicentennial Quality Control Conference, Museum of Science and Industry. For information, John Blazjak, 782 Burr Oak Dr., Westmont, Ill. 60559 (312-325-3312).

Oct. 25-29—Chicago—National Packaging Week Int'l Exposition & Assembly, McCormick Place. For information, Packaging Machinery Manufacturers Institute, 2000 K St. NW., Washington, D.C. 20006. (202-331-8181).

Oct. 25-29—Greenville, S.C. — American Textile Machinery Exhibition Int'l, Textile Hall. For information, ATME-I, P.O. Box 5823, Greenville, S.C. 29606 (803-233-2562).

Municipal Employment Shows Slight Rise

City government employment rose less than 1 percent in 1975, the lowest recorded increase since 1962, according to Commerce's Bureau of the Census.

Municipal governments in the United States made salary and wage payments for the month of October 1975 (used as a sample) amounting to $2.1 billion, an increase of 7.3 percent over October 1974. This sum made up the payroll for 2,508,000 employees—2,038,000 full-time workers and 468,000 part-time employees—a 0.6 percent increase over 1974.

Copies of *City Employment in 1975* are available at 65 cents each from the Subscriber Services Section (Publication), Bureau of the Census, Washington, D.C. 20233 or from Commerce district offices.

International Commerce Report

Interest Whetted Abroad For New U.S. Products

NEWSLETTERS OF AMERICAN EMBASSIES, CONSULATES SPREAD WORD GLOBALLY ABOUT INNOVATIVE ITEMS

We have a new product—a fast-erection steel frame and plastic surface building—and out there in the wide, wide world are buyers for it, if only we can tell them about it.

This was the gist of a message from executives of Seaman International in Sarasota, Fla., to an official at a Commerce Department District Office in that state.

A small firm not exporting on a regular basis, and eager to move its new product into world markets, Seaman was looking for suggestions. The response from the Commerce Department international trade specialist was to place a description of the Seaman building in a "New Products USA" listing that is part of a Commerce newsletter sent to several hundred American Embassies and Consulates abroad.

At one of these posts, the Embassy in Lagos, Nigeria, the announcement was transmitted to Nigerian authorities faced with a glut of unprotected cargo at the airport. The authorities learned that the Florida firm's building system, called Portomod, features a rigid clear span steel frame structure with coated vinyl polyester roof and sidewalls, that can be erected quickly, and may be easily extended or disassembled and relocated. Inside, the building is free of pillars and posts; the trusses provide places for hanging lights, sprinkler systems, and other facilities. Thus, the structure has a variety of uses, such as for warehouses or sports activities or exhibitions.

Arrangements moved quickly: the Nigerian officials made known their interest to the U.S. Embassy; Embassy officials communicated with Seaman, and Seaman concluded the sale. Within a matter of days, the firm's warehouses were in place—having been air-freighted direct from Miami to Lagos. The order was for eight buildings, totaling about $400,000. Additional orders valued at about $1 million, in the Middle East and North Africa, are pending.

Last September, the "New Products USA" listing carried an announcement for United States Trading International, Washington, D.C., about Pro-Tec, a new type of protective coating for ship hulls. Through the Paris U.S. Embassy's republication and dissemination to major government and industry representatives throughout France, the announcement reached a Marseilles shipyard in November. Shipyard officials communicated with the U.S. firm, which supplied its product brochure and other information. In January, a company executive went to the French firm's New York office for talks. By spring, a $50,000 order was concluded on coating for a 190,000-ton tanker in Marseilles. More recently, through the same steps, the U.S. company concluded an order for coating a 325,000-ton tanker in Japan. Negotiations are under way with some 50 firms in other countries.

To potential buyers abroad

The vehicle for this introduction to important customers abroad is called The Commercial News for the Foreign Service, issued bi-monthly and distributed out of Washington to about 240 U.S. foreign posts. In every issue is the section listing selected new products available for export, as collected from American firms through Commerce's New Product Information Service. This export promotion is offered to help U.S. companies introduce new products in foreign markets. Many of the posts extract the data and reprint it in their own individual newsletters which are tailored in design, content, and language to local needs. Currently 60 to 70 overseas Commercial Newsletters have a combined circulation of over 100,000. This process includes, as might be expected, disclaimers on individual product performance.

Testing the effectiveness of the new product service recently, Commerce Department officials surveyed about 200 U.S. companies, selected at random from the 750 firms that participated in the service in 1975. It was determined that the surveyed companies had received more than 6,500 inquiries, had made sales of more than $3 million, and were negotiating with about 160 agents as a result of their announcements. Of 20 of the most successful participants, half had received over 50 inquiries each, four had received more than 400 each, and one, Houston Export Management Co., Fort Worth, Tex., offering a cordless telephone extension, had received 568 from 38 countries. The Republic Electronics Corp.'s Marine Division, Arlington, Va., though it had not yet concluded sales of its "Contra Prop Boat," had 10 agents under negotiation and saw a potential for an estimated $3 million worth of business.

Several products of Edward J. Fay & Associates, Inc., Houston, Tex., have been announced in the Newsletter. "On one item, a new type gas filter," President Edward J. Fay wrote, "we have had over 200 inquiries. On another, Span Spray low-volume sprayers, we are receiving a steady flow of inquiries."

Ward International, Granada Hills, Calif., requesting a second new-product announcement about a year after the first had been published, said that inquiries were still coming in regularly on its Sight-Light flashlight. "Just the sample orders received thus far as a direct result of your write-up in Commercial News now exceed $600. In addition, we have received one initial bulk distributor order (from Italy) and are negotiating on other distributorship arrangements in various countries of the world. Commercial advertising in export publications has never given this kind of response and that is the reason we are most anxious to arrange for coverage of another product as soon as possible."

For a new product listing, a product is considered new if it has been offered for sale less than two years on the U.S. market, and is presently not exported to more than three countries on a regular basis. Because many more requests are received than can be published, some other circumstances are used in making the publication decisions. Further information may be obtained from any Commerce District Office or from Constance L. White, Bureau of International Commerce, Room 4009, U.S. Department of Commerce, Washington, D.C. 20230, telephone, 202-377-5783.

Multilateral Trade Negotiations

This article is another in a series of progress reports on the multilateral trade negotiations, prepared by the Commerce Department Office of Int'l Trade Policy.

WASHINGTON

The blue ribbon **Advisory Committee for Trade Negotiations** (ACTN) held its fourth meeting at the Department of Agriculture. The Sept. 9 session, chaired by Ambassador Frederick B. Dent, the President's Special Trade Representative, was devoted to the agricultural products situation in the Geneva Multilateral Trade Negotiations and a team of top officials reviewed U.S. agricultural progress, policies and export aspects. The committee had met at the Labor Department in May, and will convene at Commerce Nov. 16 to hear Secretary Richardson and other officials discuss industrial issues.

A U.S. **trade policy team** recently completed a trip to Brazil, Colombia, Argentina, Uruguay, Venezuela and Costa Rica to discuss aspects of the Geneva trade negotiations. Topics ranged from tropical products, tariffs, framework improvement, subsidies and countervailing duties to safeguards, quantitative restrictions and agriculture. The team, led by Deputy Special Trade Representative Clayton Yeutter, said that all participants welcomed the willingness of the U.S. to discuss negotiation problems with them.

Presentations were made Sept. 20-30 to the 27 **Industry Sector Advisory Committees** (ISACs) on the issues of supply access and of MTN rules and procedures for exceptions to a tariff reduction formula. Members received a first review from the U.S. negotiators of the collective advice they had submitted on major issues.

Concerning **access to supplies** of raw materials and the use of export restrictions, ISAC members were told that the U.S. positions are still being developed and that preliminary thinking is being guided by two approaches suggested in the Trade Act of 1974. Section 108 sets a primary priority for supply access agreements and permits the negotiation of reciprocal agreements assuring the availability of supplies needed by the U.S. Section 121 directs the President to seek improved international rules and procedures governing use of export controls.

The U.S., both an importer and exporter of primary materials and commodities, has been promoting MTN discussion of concessions on access to supplies of particular products and of rules governing export controls. To date, however, the supply access issue has not been formally recognized as a negotiating topic. The European Economic Community and Japan, with the greatest supply problems, have been reluctant to take the lead in seeking action. Resistance from developing countries and important developed country suppliers is also partly responsible for the inaction.

To introduce the supply access issue and provide necessary background information, the U.S. is preparing a list of export controls of particular concern to domestic producers and traders which will be notified to the GATT Inventory of Nontariff Measures. This project also serves to prepare the data necessary for the U.S. to seek specific commitments on access to supplies of particular products. Identification of particular supply access problems could become the basis for bilateral consultations and negotiation of specific commitments in appropriate MTN groups.

The U.S. also is considering how to improve and strengthen provisions of the GATT and other international agreements governing access to supplies of food, raw materials, and manufactured or semimanufactured products. This includes rules and procedures governing the imposition of export controls, the denial of fair and equitable access to supplies, effective consultations procedures, and dispute settlement procedures. An interagency task force has initiated discussions of possible provisions the United States should be seeking.

With respect to **rules and procedures for negotiating exceptions to a tariff reduction formula,** the ISAC members were briefed on the development of such rules. During the Kennedy Round of GATT Negotiations (1962-67) the general rule for exceptions to the 50 percent linear reduction formula was a vague call to hold exceptions "to a bare minimum" and to take exceptions only in case of "overriding national interest." This rule was combined with a "confrontation and justification" procedure whereby each formula country proposing exceptions was confronted by the other formula countries and required to justify the proposed exceptions. After this exercise, bilateral negotiations among all the participants took place. In some cases the bilateral negotiations resulted in countries reducing exceptions (EEC, Japan) and others increasing them (U.S., U.K.).

Rules and procedures for exceptions to a tariff reduction formula are significant because they help establish the scope of the negotiation by limiting deviations from the formula and thereby provide some discipline. Such rules also provide a bridge from the multilateral to the bilateral phase of negotiations.

To date there has been limited discussion and no agreement on rules and procedures for exceptions. However, there is a consensus in the Tariffs Group that countries should show "great restraint."

If the pattern of the Kennedy Round were followed, rules for exceptions would include the concept of a ceiling ("bare minimum") on total exceptions and of a standard ("overriding national interest") to be met for each exception.

The concept of a ceiling could be contained in qualitative or quantitative rules, or both. For example, a ceiling on total exceptions could be set quantitatively as a percentage of tariff lines, or as a target depth of tariff cut. Qualitatively, the ceiling could be set at a "bare minimum" of exceptions as in the Kennedy Round, or at a similar criterion. Another option would be to use both qualitative and quantitative criteria.

The concept of a standard also could be contained in qualitative or quantitative rules, or both. For example, a quantitative standard for each exception could be a minimum percentage increase in imports or import/consumption ratio, while a qualitative standard could be "national security" or "import sensitivity." These criteria could be used separately or together, as in the concept of a ceiling.

It is noteworthy that President Ford at the Puerto Rico economic summit in June suggested a quantitative ceiling when he stated that the Tokyo Round ought to accomplish as great an overall reduction in tariffs—about 35 percent—as did the Kennedy Round.

It is hoped that early next year the MTN Tariffs Group can agree upon the three principal elements of the tariff negotiations: the tariff reduction formula; rules and procedures for exceptions; and special and differential treatment for LDCs.

ISAC activity over the next six months will be concentrated on efforts in individual committees to identify and delineate the negotiating objectives of the various industry sectors and sub-sectors.

MTN Meeting Calendar

The fall schedule in the Multilateral Trade Negotiations in Geneva includes:

Oct.18, Tropical Products; Oct. 20, NTM Subgroup on Government Procurement; Oct 25, NTM Subgroup on Customs Matters; Oct. 27, Safeguards.

Nov. 1, NTM Subgroup on Quantitative Restrictions and Import Licensing Procedures; Nov. 8, NTM Subgroup on Standards; Nov. 24, NTM Subgroup on Subsidies and Countervailing Duties.

Dec. 9, Nontariff Measures.

Open dates: Tariffs, Agriculture (and its subgroups on Dairy, Meat and Grains).

WITH AUTOMAKERS IN JAPAN—*During recent U.S. trade mission visit, Jack H. Schofield of Loctite Corp., center in photo above, talks with prospective customers in Nagoya about his adhesives and sealing materials. Photo at right shows M. J. Moriarty (right) of Powerformance International Corp. explaining details in Tokyo about his gapless piston rings.*

JAPAN'S AUTOMAKERS SEEN USING MORE U.S. PARTS, TRADE MISSION REPORTS

Japanese automobile manufacturers are increasingly receptive to the use of more American parts and components, a recent U.S. trade mission found.

Encouraged by reports of record earnings by major Japanese automakers, six senior-level automotive parts and equipment executives and a market research company director visited Tokyo, Osaka and Nagoya in search of promising new business contacts. The executives talked with some 200 manufacturers. Mission Director Alton B. Ashendorf of the Commerce Department observed that, although the Japanese were in virtual agreement that price and quality are the primary considerations when determining from whom they will buy, the majority of those interviewed indicated great interest in obtaining a larger percentage of their requirements from U.S. suppliers. This trend stems partly from the feeling of Japan's car makers that they have finally broken the dominant position of Germany's Volkswagen on the small car market in the United States, Ashendorf notes. Combined, the "big three" of Japan's automobile industry — Toyota, Nissan and Honda—reportedly delivered some 350,000 passenger vehicles in the United States during the first half of this year.

As the Japanese tend to approach new business relationships with extreme caution, and since the products being offered by several of the mission members either represented advances in automotive parts technology or required distribution through original equipment manufacturers, testing and approval usually are necessary before lasting business relationships can materialize. The products of these companies are being tested, and results of these tests should be forthcoming in the not-too-distant future.

The businessmen toured Nissan's Zama final assembly plant, the Sagamihara parts warehouse, and Toyota's engine and final assembly plants.

"Without Commerce and State Department assistance, a small company like ours could never have secured access to such industrial giants as Nissan or Toyota," said Ralph Schwarz, president of Florida Production Engineering Co., a Daytona Beach-based firm that specializes in designing and producing automobile wheel covers with a patented retention system.

Although Schwarz had hoped to locate, and contract with, outlets through which his wheel covers might be sold, his discussions with Japanese businessmen disclosed that the most effective method of obtaining market penetration would be to appoint a licensee in Japan. This possibility is presently being evaluated and considered.

Substantial sales seen

Harry A. Jensen, manager of the international division of K & W Products, Inc., Whittier, Calif., a new-to-market firm offering automobile maintenance products, liquid metallic seals, and radiator seals, said: "From this mission we have gained important knowledge necessary to be successful in this market. We received at Nagoya a trial order from a large trading company that probably will lead to a very large volume."

At the windup of their visit, members reported direct sales of $46,600, and project orders in the next 12 months at more than $1 million. Three agreements were concluded.

Members of the mission, in addition to Schwarz and Jensen already mentioned were: Anthony J. Cruz, J. P. Stevens & Co., New York; Rikuma Ito, Market Research Group, Inc., Farmington Hills, Mich.; M. J. Moriarty, Powerformance International Corp., Phoenix, Ariz.; Paul E. Moss, Paul E. Moss & Co., Valley Stream, N.Y.; and Jack H. Schofield, Loctite Corp., Newington, Conn.

COMMUNICATION SYSTEMS: MISSION FINDS GROWING MARKETS IN FAR EAST

Favorable economic trends in Singapore and Thailand, and ambitious development programs in both countries, are contributing to the growth of communications equipment markets in the area. A U.S. trade mission returned last month with a list of products for which tenders soon will be issued in Singapore, a roundup of telephone system improvements in Thailand, and a "good sales prospects" appraisal for Hong Kong.

Products represented by the six-member mission included broadcast transmitters and antennas, telecommunications ground stations, data communication computer terminals and no-heat shrinkable tubing, microprocessors, electronic equipment for telephone line conditioning and signaling, remote control and supervisory equipment, anti-wire tapping and de-bugging equipment, scramblers, and consulting services for telephone, telex microwave, cable, satellite and multiplex systems. For some of these products, interest varied from "keen to intense," according to Mission Director William J. Bushwaller of the Commerce Department.

In Singapore, the mission was briefed extensively by Goh Seng Kim, General Manager of the Telecommunications

PERSON-TO-PERSON COMMUNICATION — *At mission's Business Information Center in Siam Intercontinental Hotel, Bangkok, Justin P. Carlino (left) and mission leader William J. Bushwaller (standing) talk about U.S. equipment with potential buyers. Photo at right: James A. McCalmont (right), at Singapore U.S. Trade Center, jots down details discussed.*

Authority of Singapore (TAS). The authority is in the second year of a five-year development program which involves capital investments of $400 million for the period 1975-80. Some of the major purchase areas and projected time frames during which tenders may be expected were outlined by Goh as follows:

Electronic switching equipment (stored program control exchanges) for about 500,000 lines: estimated cost, $60 million; tender, October 1976.

Underground cable: next tender, November 1976, for D-shield cable (trunk line); other tenders for standard cable will be issued throughout 1977. TAS is interested in optic fiber technology and may consider buying cables using optic fibers in 1978-79.

Pulse code modulation equipment: two tenders have already been won by ITT and NEC, but additional tenders are to be issued toward the end of 1977.

International switching center (gateway telephone exchange): to be installed in TAS's new headquarters building scheduled to open in 1979, tender in October or November 1976.

Submarine cable projects: The ASEAN countries are finalizing plans for a number of new underwater cables to connect the countries of Southeast Asia. The first project will be a 14 mega Hz cable link from Luzon in the Philippines to Singapore to be completed by 1979; tenders for this project and a HongKong-Kuantan (Malaysia)-Singapore cable project could be as early as the first half of 1977; others under consideration are a Singapore-Jakarta cable and Singapore-Penang-Indian Ocean cable.

Electronic data processing equipment: TAS currently operates two large UNIVAC computers and has plans for a third main frame within a couple of years; TAS's new data processing service with telephone hook-ups is expected to be operational in October 1976; TAS has a continuing interest in multiprocessors, teleprinters, and other types of peripheral equipment.

Earth satellite station: TAS currently operates two satellite antennas on Sentosa Island; although plans are not firm, there may be a need for a third satellite dish when Intelsat V is inaugurated.

Communications equipment for new airport: toward the end of 1976, TAS will begin tenders for about $40 million of equipment for Changi Airport.

Developments in Thailand

In Bangkok, the mission was briefed by officers of the American Chamber of Commerce of Thailand, and by Ananda Sharn Prapai, Deputy Director General of the Telephone Organization of Thailand (TOT), who outlined that organization's ambitious development project through 1984.

Rapid economic development in Thailand during the past decade has brought about a serious shortage of telephone services. Upon completion of TAT's current development plan in 1979, however, long distance telephone service throughout the country will be fully automated. All terminals are being upgraded from electromechanical to computer. Concentration is on the domestic network, and the organization is going into microwave and VHF for up-country communication. Current interest was expressed in a domestic satellite program. Overseas communication is based mainly on satellite, as no submarine cables are yet available. However, the first stage of a submarine cable program, to connect Thailand with Singapore and Malaysia, is expected to be implemented during 1979-80.

Despite the rapid improvements in telephone service now under way, shortages of telephones will continue to exist. Ananda expressed an interest in having a manufacturing facility set up in Thailand by a U.S. company which would service the entire South East Asian area. Copies of TOT's Economic Development Project (1977-84) may be obtained from Thomas C. Moore, Room 4126, U.S. Department of Commerce, Washington, D.C. 20230; phone, 202-377-2522.

In Hong Kong, the mission received wide press coverage and strong interest was shown in some of the products offered—including voice and data communications security devices, anti-tapping and de-bugging equipment, and protective and countersurveillance equipment.

Members of the mission, and the firms they represented, were: Bruce D. Buck, CCA Electronics Corp., Gloucester City, N.J.; Justin P. Carlino, MERI Corp., Mountain View, Calif.; Jack T. Griffith, Teleconsult, Inc., Washington, D.C.; James A. McCalmont, Technical Communications Corp., Concord, Mass.; Joseph K. Post, Pulsecom Division of Harvey Hubbell Inc., Falls Church, Va., and George J. Scanlon, Communications Control Systems, Inc., New York. The participants sold more than $3 million worth of equipment, and project some $5 million in additional business in the next 12 months. All are likely to establish agencies or distributorships, Bushwaller reports, if appropriate follow-up is maintained.

COMPANY LITERATURE
American Textile Machinery Association
AMERICAN TEXTILE MACHINERY:
AMERICAN TEXTILE MACHINERY:
COMPANY

HEADED FOR WORLD MARKETS—*Traveling display of the American Textile Machinery Assn. was unveiled recently to Commerce Department international trade specialists who will help the association present it to textile producers in such target markets as Mexico, Egypt and other Latin American and Middle Eastern nations. From left: Graydon R. Powers, Jr., ATMA Exec. Vice-pres.; Dr. Peter von Bucher, Chemtex; John J. Baughan, Draper Div., Rockwell International; Henry H. Richardson, ATMA marketing director, who accompanies the exhibit; Marshall Fulp, Bahnson Co.; Richard Garnitz, director of Commerce's Office of International Marketing, and T. J. Jackson, Commerce textile machinery industry specialist. Display includes synchronized tape-slide show of latest products of ATMA's 121 member companies.*

Industrial Development In Taiwan Spurs Market For Laboratory Equipment

As the Republic of China's industries become more technologically sophisticated, advanced laboratory equipment will be required in such areas of the economy as electronics, textiles, petrochemicals, food-processing, medical and health-care, pharmaceuticals, and metalworking—where quality control and analytical precision are essential.

Results of the recent laboratory instruments exhibition at the U.S. Trade Center in Taipei confirm that, given Taiwan's policy favoring imports of technology-intensive equipment from the United States, American firms are likely to continue to enjoy substantial sales opportunities.

Seventeen exhibitors, representing 26 U.S. manufacturers, displayed and demonstrated their most advanced equipment for physical and chemical analysis, biochemical and clinical analysis, temperature measurement, and laboratory support activities. Government officials, scientists, researchers, scholars, engineers, technical personnel, importers, and manufacturers attended. Floor sales reached some $250,000, and 12-month projections, $2.8 million.

U.S. equipment is known in Taiwan for its precision, ease of operation, and time- and labor-saving features, and U.S. laboratory instruments are recognized to be far superior in quality to those available from other sources. Prices of locally-produced, technologically-simple laboratory items such as centrifuges, pH meters, and water-bath devices, are expected to decline in the next two or three years as a result of increased local production. More expensive sophisticated instruments, which cannot be produced locally, will continue to be imported. Japanese and West German suppliers are U.S. manufacturers' key competitors.

U.S. FURNITURE 'HAS ONLY BEGUN TO SELL' IN U.K.; EXHIBITION SCORES

Enthusiastic acceptance of a wide range of products that had hitherto rarely been exported was the upshot of a recent exhibition at the U.S. Trade Center in London, as 23 companies—many exporting for the first time—displayed American furniture and furnishings. U.S. furniture "has only begun to sell" in Great Britain, Embassy officials observe, and the potential is for sizable expansion now and over the long term.

Almost 1,000 trade visitors attended the exhibition, resulting in the signing of four sales representatives, 15 more under negotiation, and immediate sales of nearly $400,000. Moreover, the exhibitors predicted an additional $32,130,000 to follow within a year. "If we can't sell at this exhibition," said John Wolstenholme, European marketing director for Armstrong Cork Co., "then we can't do business in Britain, because everybody is here."

Several factors have made the extraordinary results of this exhibition possible. On the demand side, the large British furniture market—$1 billion a year in residential furniture alone—has recently suffered from a high rate of inflation (more than double that of the United States) and long delivery times (because of manufacturer's reluctance to invest in inventory). At the same time, American suppliers have benefited from superior raw material resources, improved packaging methods and efficient freight containerization. As a result, an industry that had never been considered export-oriented has found itself competitive in the U.K.-European market.

Both wooden and upholstered furniture were among the exhibition items offering the best sales potential, as were decorator and specialty lamps and occasional furniture. Carpets are not generally competitive in the United Kingdom because of high tariffs and shipping costs.

WEIGHING BENEFITS—*Visitors at the recent Taipei U.S. Trade Center's laboratory instruments exhibition consider the advantages of Ohaus balances, as detailed by Jackson Lee (in light shirt), company representative.*

OPPORTUNITIES, APPROACH OUTLINED FOR NEWCOMERS TO THE FRENCH MARKET

France is not the biggest market in the world for U.S. products, and it is not the easiest one to break into. But it is big enough and easy enough to merit careful study by American exporters with the right kind of products to offer and a willingness to meet the French importer half way in getting those products to the customer.

This article, by John Q. Blodgett, Commercial Officer at the U.S. Embassy in Paris, is addressed to the small to medium-sized U.S. manufacturer who is ready to export and is prepared to invest the care, resources and management attention necessary to move in on a growing—but highly competitive—market of 53 million in the heart of the European Common Market. The product line should be one with demonstrated sales potential in an industrialized country and could cover anything from simple consumer products to highly sophisticated capital equipment.

Why France?

- France is the sixth biggest U.S. market; our 8 percent market share is worth $4.2 billion and rising.
- France is accustomed to importing nearly 20 percent of its GNP; the transportation, warehousing, forwarding and marketing infrastructure is already in place and functions well.
- U.S. products are highly regarded in the French market by both private consumers and industrial end-users.
- As elsewhere in the EEC, import duties on industrial goods are reasonable and non-tariff barriers affect only a limited range of items.
- Under the present exchange rate structure, American products can compete with those from other import sources (even within the EEC), and French domestic price levels are rising more rapidly than ours. These factors are, of course, transitory and of little relevance to a long-range marketing strategy.
- France, with ports on both the Atlantic and Mediterranean, is a good forward base for the development of further markets in the EEC, Eastern Europe, Africa and the Middle East; many U.S. companies serve these areas from headquarters in Paris.
- France's industrial base, though developing rapidly, is incomplete in some areas, such as textile weaving, printing and graphics, earthmoving equipment, chemicals, office equipment, environmental control instrumentation, medical and laboratory equipment, microwave and EDP electronics, among many others; items such as these are largely imported and the United States has a technological edge in most of them.
- U.S. Government and other facilities for assisting American exporters in attacking the French market are unusually extensive. There is a modern, well-equipped and highly active U.S. Trade Center in Paris with promotional events throughout the business year. The U.S. Embassy's Commercial Affairs Branch has a strong staff of commodity specialists, both in Paris and in the five regional consulates, to assist exporters in researching the market and identifying trade leads and suitable representation. There is a well-established American Chamber of Commerce in France, and a wide choice of locally-based American banks, lawyers, research firms and marketing consultants. There is a large assortment of well-conducted trade shows in France every year, with attendance from all parts of Europe, Africa and the Middle East. For information about all these government and private facilities, exporters should consult the nearest Department of Commerce District Office.

GETTING GOODS TO FRANCE—*The accompanying article is aimed at U.S. manufacturers who want to break into a growing market of 53 million in the heart of the EEC. Above, an ore berth and container terminal at Fos, in the Marseilles area.*

What are the problem areas?

- ▶ The French, like Americans, prefer to see product literature, invoices, labels and correspondence in their own language. French legislation requiring this goes into partial effect Jan. 1, 1977. Even if this legislation is not vigorously enforced it is in the exporter's interest to develop French material for the French and other francophone markets to the maximum extent feasible.
- ▶ Similarly, the French business buyer, particularly at the end-user level, likes to be sold to by a Frenchman. Arms-length transatlantic dealings by letter and cable do not work well in this market, at least in the beginning. Retailers and industrial customers will normally insist on having a knowledgeable spokesman for the exporter within easy reach in France with whom to discuss both commercial and technical problems. This implies the need for an agent or distributor in France, with parts and service facilities as appropriate to the product and market.
- ▶ The French Government has a "buy French" or at least a "buy EEC" philosophy; significant government procurement of American goods or services can be expected only if there is no comparable technology available in the EEC or if the American product is available from manufacturing subsidiaries or licensees in the EEC.
- ▶ There are differences in quality and safety standards between the United States and Europe which sometimes inhibit sales to France, particularly of

electrical equipment and chemical industry materiel.

▶ The market development options in France, as elsewhere in Europe, are more restricted than in the United States. Radio and TV advertising, for example, is highly limited. These limitations, however, apply without significant discrimination to all vendors.

▶ Common Market regulations and French law make the relationship between manufacturer and distributor or agent somewhat different than in the United States. Also, importers often expect more flexible payment terms than are the custom elsewhere. Traders new to the French market should seek advice from their lawyers and bankers on these points.

Further details on the foregoing marketing problems can be obtained from the Department of Commerce and are summarized in the Department's publication *Marketing in France,* available for 50 cents from any District Office or Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Pinpointing most promising product lines with precision and long-term validity is difficult. Movements in exchange rates, technology, economic conditions, competition and taste can change the picture from year to year and even from week to week. Items produced only in the United States, or which can boast a competitive edge in terms of technology, quality and/or price, obviously have the best chance.

But even in the absence of such an edge, the French customer can be influenced by better salesmanship, better and more reliable delivery dates, better terms, better product presentation and better after sales service.

Taking all factors into account, the Department of Commerce and U.S. Embassy in Paris have selected the following lines for promotional emphasis in the fiscal year beginning Oct. 1: business equipment, laboratory instrumentation, metalworking and finishing equipment, energy systems, data communications equipment, industrial assembly equipment and industrial training aids and audio-visual equipment.

U.S. manufacturers in the above lines not already active in France are urged to consult their Department of Commerce District Office without delay on how to take advantage of the special promotional programs to be mounted in France during 1976-77.

The first step for a new-to-market company interested in France is to solicit from the Department of Commerce all available market research on France in your product area. If this is sketchy or outdated, Commerce may be able to supplement it for you. For a more complete job, tailored to your specific needs, you may wish to use the services of a private research agency.

Once you have a general feel for the market, the logical next step would be to make an exploratory visit to France, ideally timed to coincide with a trade show in your field where you would have an opportunity to meet a number of potential distributors and end-users. While in Paris you should call on the U.S. Embassy's Commercial Affairs Branch and U.S. Trade Center to get further information and advice.

When you have decided that one or more of your lines are marketable in France, you should develop a marketing strategy, including decisions on the form of representation you will need, the terms you will offer, and the resources you will invest in support of your agent.

Take advantage of services

With your strategy in hand you are in a position to specify to the Department of Commerce the kind of representation you are looking for, and to take advantage of various services offered by Commerce, in cooperation with the Foreign Service, to bring your products to the attention of appropriate distributors and end-users. These include the supply of computerized trade contact listings, the Agent/Distributor Service, and participation in an exhibition at the U.S. Trade Center in Paris on your product theme. These shows are scientifically promoted and well attended by a selected business audience. No effort is spared to ensure that exhibitors eventually accomplish all the objectives they have set for themselves even if, as occasionally happens, they are not achieved during the period of the show.

The step-by-step approach outlined above can, of course, be rearranged or telescoped to achieve more rapid results. In approaching the French market, however, you can waste a lot of time and money and do considerable harm to your long-term objectives if you short-circuit the system. Having the right product is essential but not enough; you must put that product before the French customer under the terms and conditions that he is accustomed to and through intermediaries in whom he has confidence. The Department of Commerce and Foreign Service are well-equipped and eager to advise you on these terms and conditions and help you find the intermediary.

NORWAY'S OIL WEALTH STIMULATES IMPORTS, COOPERATIVE VENTURES

Norwegians may question the prediction that they will soon be the richest people in the industrialized world, but Norway's rise toward that position already makes it a market deserving serious consideration. Buoyed through the global recession by domestic investment and sustained consumer demand, the country looks forward to even better times as its export markets recover and its North Sea oil and gas earnings grow.

David C. Holton, Commercial Attache at the U.S. Embassy in Oslo, reports that the new wealth is heightening Norway's interest in American products. Sales opportunities range over a broad front from raw materials through capital equipment to consumer goods. Where importing may be uneconomic, production in cooperative ventures—licensing arrangements, joint ventures or partnerships—might be profitable.

Over recent years, the total value of Norway's imports has grown tremendously, and imports from the United States have kept pace. Total 1975 imports, worth about $9.2 billion, were nearly double the 1970 total. The U.S. share, approximately $656 million in 1975, fell slightly from 1974 but nevertheless was almost twice the figure for 1970.

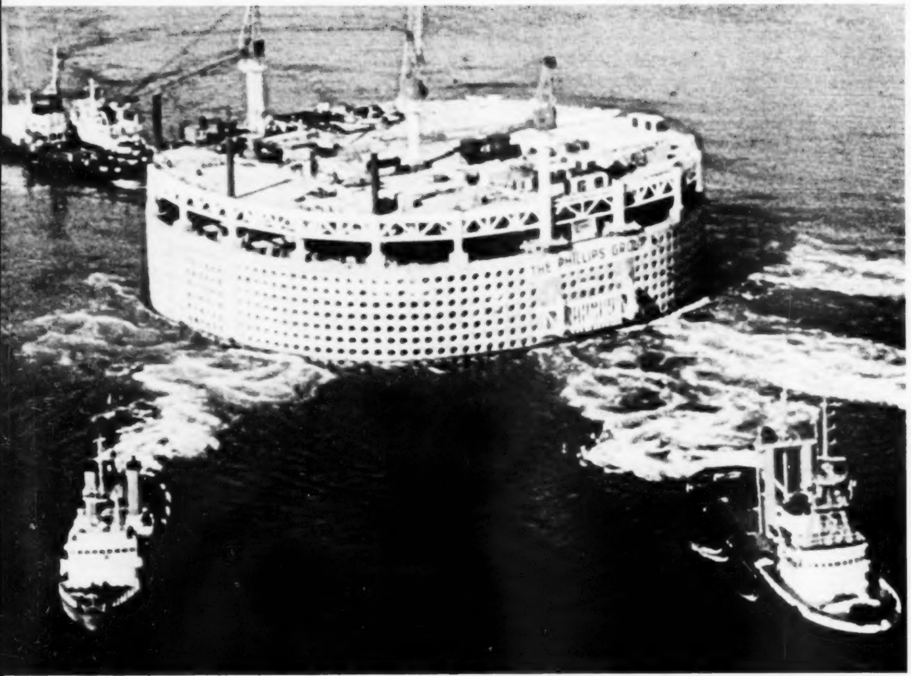
Exploitation of North Sea oil and gas ranks first as the stimulus to Norway's imports from the United States. Its dominance should continue far into the future, although the current over-supply of drilling rigs and the government's go-slow policy are holding growth within bounds.

The government's Petroleum Directorate expects a number of new wells to be drilled in the Norwegian sector of the North Sea this year. Oil companies have been negotiating concessions in several blocks to be opened along the U.K.-Norwegian boundary. Exploration on the continental shelf north of the 62nd parallel, now planned to begin in 1978, is expected to reveal even greater oil fields than those in the south.

American exports mushroomed

American exports mushroomed with the North Sea opening because of the scale of activity and the central role of American companies and American oil field equipment. As Norwegian companies increase their participation in North Sea action with the support of Norwegian Government policies, and as foreign competition increases over time, American companies will find it increasingly difficult to retain their share of North Sea activity.

But the prospects are exciting: the country's largest bank, after calculating that $5 billion was invested in the Norwegian sector of the North Sea in 1963-74, estimates that another $14 billion



NORTH SEA WORK CONTINUES—*American companies still play a central role in exploration and development of Norwegian North Sea oil fields, but competition from Norwegian and third-country companies is increasing, according to this report.*

will be invested over the next five years. This includes $4 billion for drilling and production platforms, $8 billion for field development including pipelaying and terminals, $5 billion for petrochemical plants, and $1.5 billion for supply ships, the drilling of 100 wells, and other services and equipment.

Sweden and Finland, as well as Norway, each see the oil fields expected under Norway's northern waters as a base for industry in the north of all three countries. Prospects for petrochemical installations in north Norway, at least, deserve attention; for the government controls the disposition of offshore oil and favors greater industry in the north. A long-range proposal for a Nordic gas pipeline network also warrants watching, while studies test its feasibility.

Expansion in petrochemicals, electronics

Expansion of Norway's oil refining and establishment of a petrochemical industry have contributed to the increase in Norway's trade with America. The end is not in sight. Production at the state-controlled Mongstad refinery might be doubled to 8 or 10 million tons annually, if Norway and Sweden reach agreement on the sale of oil products to Sweden. An investment intentions survey in November indicated that more than $400 million would be invested in the petrochemical industry—primarily in the Rafnes complex—in 1976.

Electronics, including business and scientific computers and peripheral equipment, electronic components for industry, and production and test equipment for Norway's sophisticated and growing electronics industry, is also an important factor in Norway's imports from the United States. Norway's part in the F-16 co-production program opens a further requirement for electronics components and production equipment. Norwegian industry expects some $3 million in orders in connection with production of the fighter planes under the five-nation program; most of that will be for electronic assemblies.

Further outlays for pollution

Pollution control is high on the list of public and private concerns in Norway, and figures in trade with the United States. After contracting for oil spill clean-up equipment to station at depots along the coast, the government has called for an additional six depots. Municipalities will be in the market for oil spill equipment for their own harbor areas and nearby waters as oil activity grows.

Around $300 million must be spent this year and next for other anti-pollution measures required to meet the government's schedule for stricter environmental standards. By the 1984 deadline, another $400 million will be invested. An industry survey indicates that about 55 percent of the total investment will go directly for anti-pollution equipment; the remainder will be for changes in production methods or even the rebuilding of manufacturing plants. Most severely affected of Norway's industries will be wood processing, where costs will run to 37 percent of annual investment up to 1984.

This year's wage agreements, allowing a 3 percent increase in real disposable income, can work in at least two important ways to stimulate interest in American products. Manufacturers, already concerned over the effect of their high labor costs on competitiveness abroad, will be receptive to proposals for labor-saving machinery. Consumers, enjoying greater disposable incomes than ever, will be attracted to novel and high quality products for the home and family.

The quantity of American goods in Norwegian stores now is not great, but their variety in the face of domestic and European competition suggests that much is possible. Could it be feasible to import fireplace logs from California to sell to Norwegian customers, or drill bits from Ohio to compete with bits from nearby European suppliers? Would Norwegians buy decorative wooden house numbers from America? Work gloves? Skis? All these can be found in Norwegian stores. More must be possible.

Similar "coals to Newcastle" examples can be found in industry. Woodchips, particleboard, and wastepaper are being imported, for instance, and supply vessels from America help service offshore rigs and platforms.

Partnerships are attractive

Partnerships, joint ventures and licensing arrangements offer another approach to the Norwegian market, and beyond, when exporting is not practical.

The French may soon be buying their table wines in cardboard cartons made by the Norwegian licensee of an American packaging company. Gas turbines are made by a leading Norwegian firm under license from an American manufacturer. U.S. companies working with Norwegian organizations have designed drilling rigs and floating facilities to liquefy, store and load natural gas at sea.

Norwegian Government policy may reinforce economic reasons for choosing such partnerships as an alternative to direct sales, since Norwegian companies are urged to use Norwegian products and services whenever practicable.

The U.S. Trade Center for Scandinavia, located in Stockholm, merits consideration as a door to the Norwegian market, for the more enterprising Norwegian agencies send representatives to Trade Center exhibits to find new product lines. Regional representation of American companies by agencies based outside Norway sometimes fails to serve Norway adequately, and is not well regarded by Norwegian customers.

SINGAPORE'S FAST START IN RECOVERY RACE HAS BRIGHTENED MARKET VIEW

Singapore has weathered the worldwide recession in fairly good shape, thanks in large part to its resilient services sector, according to Charles S. Ahlgren, Commercial Officer at the U.S. Embassy there. In 1975 GNP grew by only a little more than 4 percent, but this is proving to be more of a "normal" year, with consolidation in some sectors, more modest growth in others, and a minor boom in the electronics and textile industries. Assuming continuation of economic recovery in the United States, Japan and Europe, Singapore should achieve its 7-10 percent real economic growth target this year.

In 1975, foreign investment commitments in Singapore dipped by over 60 percent to $112 million. Singapore's investment climate, however, remains attractive. U.S. investor interest appears once again to be on the rise, a welcome development to the government, which in 1975 made several new concessions to attract prospective foreign investors. The tax holiday period has been extended from five to a maximum of ten years and favorable consideration of labor-intensive industries has been resumed. Wage differentials between Singapore and other Asian countries are narrowing, although Singapore's strong points remain its well-developed infrastructure, good transportation and communications, and honest government.

For the United States, 1976 is proving to be another excellent trading year with Singapore. U.S. exports to Singapore should total in the neighborhood of $1.3 billion (c.i.f.). U.S. imports from Singapore are expected to show a more substantial (15-25 percent) increase, however, due to increased U.S. demand for Singapore-made consumer items, especially electronic and electrical products, and implementation of the Generalized System of Preferences.

For the longer term (1977 and beyond), U.S. exports to Singapore cannot help but be negatively affected by the slower pace of industrial growth in Singapore and the near shutdown of new oil exploration in the region. It is also doubtful if the electronics and textile sectors alone can sustain Singapore's export growth.

Some areas of particular interest

Selected markets which Ahlgren feels offer good opportunities for U.S. exporters include:

Building and construction supplies and equipment: This is Singapore's single largest category of imports. Potential for U.S. products is somewhat curtailed, however, by their relatively high price. Products with fair potential include: ceramic tiles, gypsum products, builders' hardware, airconditioning equipment, and heavy construction equipment.

Energy and fluid transfer systems: U.S. generator sets and engines, pumps, valves and compressors have done extremely well in the Singapore market in recent years. A cautionary note: the downturn in regional oil exploration could seriously reduce sales opportunities in this market sector.

Communications equipment and systems: One single buyer, the Telecommunication Authority of Singapore (TAS), accounts for over 90 percent of all purchases of communications equipment. The TAS five-year development program calls for expenditures of $440 million by 1981. The largest single category of TAS purchases will be underground telephone cables. Other salable equipment for U.S. manufacturers includes central office exchanges, transmission equipment and teleprinters.

Food processing and packaging equipment: Food processing is Singapore's fourth largest industry. Good sales potential exists for U.S. bottling, filling, labeling, wrapping, capping, sealing and shrink packaging equipment.

Metalworking and finishing equipment: Most salable U.S. products include: arc welders, hydraulic and pneumatic presses, portable pneumatic handheld tools, jig grinding and boring machines, metal cleaning and spraying equipment, twist drills and drill bits, and industrial smelting and refining furnaces. There is also a market for accessories and parts for these items. Foundry machines and parts should also be in demand as existing foundries, many of which are small backyard enterprises, are upgraded and go from jobbing into production work.

Other areas of opportunity for U.S. firms include printing and graphic arts equipment, electronic industry production and test equipment, process control and laboratory instrumentation, business equipment and computers, agricultural products and consumer goods.

Selling in Singapore

Singapore's trade policy is historically very liberal. Tariffs are few, and most capital goods enter duty-free. As a result, the nature of Singapore's historical entrepot trade is gradually changing from such traditional products as rubber and wood to capital goods, such as machinery, telecommunications equipment and industrial raw materials.

Part of this change is due to the increasing insistence of Singapore's neighboring raw material producers, Indonesia and Malaysia, that, to the extent possible, certain value-adding functions be performed in their countries rather than in Singapore. For example, Indonesia is increasingly exporting sawn timber, not logs; Malaysia is increasingly processing and marketing its own rubber.

Singapore is adapting to this situation by promoting its superior financial, port and communications facilities to attract regional distributors, warehouses and sales offices.

Banking, service industries and tourism also contribute to a more diversified, sophisticated economic role. The Singapore-based Asian dollar market now boasts assets of over $14 billion.

Ahlgren stresses that American exporters considering Singapore should not look at just the local market, attractive as it may be in certain product areas. More importantly, Singapore has the marketing connections and the infrastructure to permit its use as a base for penetrating many of the other markets in Southeast Asia.

Information on the market

Although sales opportunities for U.S. exporters exist across the board, some areas are much less promising than others. U.S. business officials are urged, therefore, to do their homework before investing time and money in a trip to Singapore. Any of the 43 U.S. Department of Commerce District Offices will be happy to assist interested business people. They can also write or call Thomas Moore or Lee Barnes, Office of International Marketing, Room 4126, U.S. Department of Commerce, Washington, D.C. 20230.

In addition, the following Overseas Business Reports provide excellent information and advice: *Marketing in Singapore* (OBR 75-8), and *Regional Markets in Southeast Asia* (OBR 75-42). These reports (50 cents a copy) and the following Market Research Studies ($10 a copy) are available from the Department of Commerce's National Technical Information Service, Springfield, Va. 22151: *Building Products & Construction Equipment; Business Equipment & Systems; Communications Equipment & Systems; Computers & Peripheral Equipment; Metalworking & Finishing Tools & Equipment; Sawmill & Woodworking Equipment.*

The U.S. Embassy in Singapore provides a wide range of services to the business community and can elaborate on this report for interested American business persons.

Some 500 U.S. firms are already located in Singapore. While approximately 75 of these are manufacturing locally, the majority are engaged in sales, service, and distribution of U.S. products. Many more U.S. exporters have local agents/distributors for their products. A good local agent is invaluable in this market, and often essential to achieve market penetration. He can arrange for appropriate financing when required, provide after-sales service parts, and keep his American principal informed of local tender opportunities. The Department of Commerce can assist U.S. firms seeking agency representation in Singapore.

Ahlgren is of the opinion that many U.S. firms are losing out on business opportunities in Southeast Asia because they still consider the market too small and too far away. Singapore businessmen often complain about slow or poor quality responses to their inquiries. This is regrettable: although Singapore is one of the smallest countries in Asia, it is one of the largest importers of U.S. nonagricultural products.

Major projects

The major projects listed below, totaling over $3 billion, have either been announced or are under serious consideration in Singapore. They could provide significant "big ticket" opportunities to U.S. exporters in years to come.

Sumitomo Petrochemical Project: Sumitomo and the Government of Singapore have announced plans to jointly build and own a $600 million naptha cracker. Five or six downstream companies would produce various plastic resins and intermediates. This project is at present somewhat uncertain.

Mass Rapid Transit Project: A feasibility study has been completed, and a Cabinet decision on this project is expected later this year. If the decision is to go ahead, there could be substantial opportunities for U.S. suppliers of rolling stock, other MRT equipment, and construction equipment.

New Singapore International Airport at Changi: Work on this $1 billion project began in early 1976, and will be completed by 1980.

Upcoming Trade Center Events in Singapore include process controls instrumentation exhibition (Dec. 7-10); energy systems exhibition (Feb. 7-11); printing and graphic arts equipment exhibition (April 25-29); electronics industry production and test equipment (June 13-17); and advanced building technology exhibition (Sept. 19-23).

Ecuador Gets Oil To Market, Builds Up Foreign Reserves

After a slump in 1975 caused almost entirely by problems in marketing oil exports, the Ecuadorean economy has rebounded in 1976, reports the U.S. Embassy in Quito.

With oil exports flowing out quite steadily and rewardingly, and with import growth effectively restrained by curbs in force since late 1975, the balance of payments has moved into a healthy surplus condition. Reserves of gold and foreign exchange have been mounting at a far higher rate than the government had expected at the start of 1976. The increase in oil export earnings as compared with last year has also served to reactivate the developmental programs of the numerous public and private entities that have an earmarked share of these oil earnings.

The prospective slight growth in Ecuador's imports this year, or perhaps even a decline from last year's level, will not affect U.S. exports of capital goods, raw materials and construction materials, which are largely exempted from the current import curbs. The pinch is bound to be felt mainly in exports of consumer goods. While overall U.S. exports to Ecuador are being, to some extent, adversely affected by the import curbs, the U.S. share of the market nevertheless is believed to be holding its own and possibly increasing slightly.

Since the curbs will be lifted sooner or later—probably around early 1977, if Ecuador's export earnings continue to prove satisfactory until then—U.S. suppliers will be well advised to continue to keep an eye on the Ecuadorean market. When the curbs are lifted there is bound to be a sharp increase in imports.

Meanwhile, in the face of the curbs and a government credit squeeze on Ecuadorean importers, U.S. exporters will find it necessary and worthwhile to offer relatively generous financing to their Ecuadorean customers. Ecuadorean purchasers are tending to buy from the supplier who offers the best payment terms rather than the supplier who offers the best price.

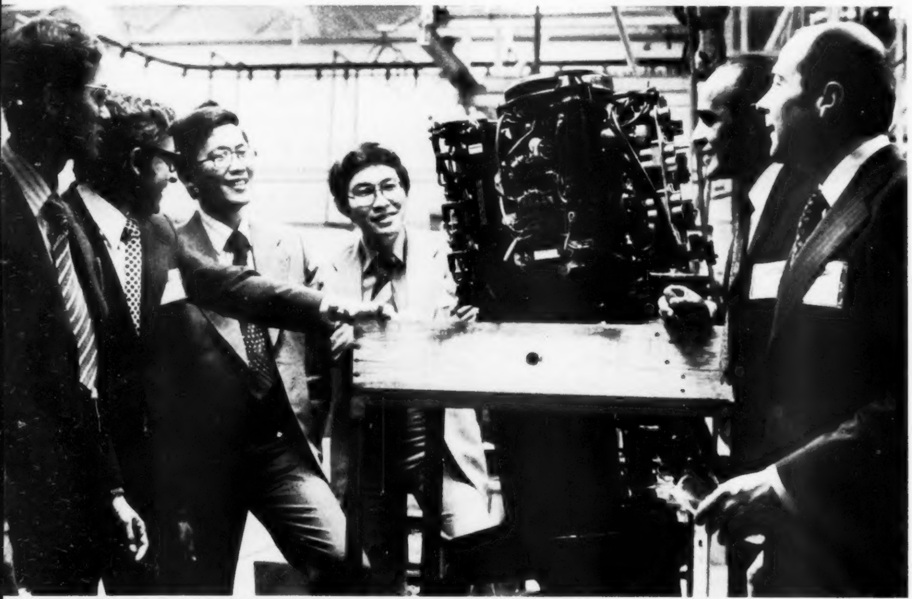
An impressive number of new investment projects, mainly in the public sector, are well along in the planning stage, and the government and other Ecuadorean parties will be requiring huge amounts of foreign private investment for these.

The petrochemicals sector appears to offer perhaps the largest opportunities for investment in the next several years, as the government proceeds with plans for development of a petrochemical complex based on the Andean Pact's assignments to Ecuador in this sector.

The government's attitude towards foreign private investment is favorable. During the past year it has cut some of the red tape involved in the investment process and has sought in other ways to make foreign private investment in Ecuador easier and more worthwhile.

The restrictions imposed under Decision 24 (the Andean Investment Code) of the Andean Pact continue to dampen foreign investors' enthusiasm for projects in Ecuador, but in the current debate on this topic among the Pact members Ecuador has indicated it favors liberalization of Decision 24.

In any case, the government can be expected to afford to foreign investors the maximum possible liberal interpretation of the Decision.



TOURING IN WISCONSIN—*New employees of Mercury Marine's international operations enjoy a close-up view of the 175-hp Merc V-6 outboard at Mercury's main manufacturing facilities in Fond du Lac, Wisconsin. Pictured during part of a three-month orientation program, from left, are Anthony Pang, service manager, Singapore; Manuel Arenas, sales manager, Curacao; Paul Chan, sales manager, Singapore; Francis Wee, dealer development manager, Singapore; Amirali Pirani, sales representative, Nairobi; and Jose Save, service manager, Curacao.*

Burundi Gets Help From High World Coffee Prices

Burundi's real economic growth rate, which had been averaging an estimated 2 to 4 percent from 1970 through 1974, probably slowed to a stop during 1975, or even declined. Paradoxically, the central Africa country's foreign exchange holdings rose from a precarious $13.7 million at the end of 1974 to $27.2 million by the end of 1975, owing to marketing bottlenecks which delayed the receipt of payments for the 1974 coffee harvest until 1975. The U.S. Embassy in Bujumbura expects 1976 to end with Burundi's overall economic position much improved at home and with its foreign reserve position generally satisfactory, even if somewhat reduced from the high level at the end of last year.

The vastly improved foreign exchange position has provided the government with maneuvering room for exercising policy options which otherwise it might not have risked. They have included relaxing import restrictions and a gradual, controlled expansion of money supply. More importantly, however, considering current coffee price levels which are now almost triple Burundi's average 1975 selling price, the government's fixed price to the peasant producer has been increased by 75 percent. Government employees' salaries, which had not been increased for the past 11 years, have been boosted by 30 percent. Further moves to buoy up the economy will be made through increases in the investment budget.

Aside from America's interest in Burundi's general welfare, which during 1976 includes aid contributions of over $1 million, mostly in PL-480 food, only Burundi's mineral resources, particularly nickel, have attracted serious U.S. attention.

American-led consortium

An American-led international consortium is studying the discovery of large and presumably rich nickel finds by a UNDP mineral survey team, and is presently awaiting the results of a prefeasibility study which may be completed by mid-1977. The results of this study and the then prevailing estimates of the market situation concerning current and future consumption of nickel will provide the consortium with a basis for deciding whether or not to involve itself financially in the development effort. The project would involve metallurgical processing, electric power supply and complete infrastructure development that could cost well over three-quarters of a billion dollars by completion.

American companies so far have shown little interest in other mineral finds, including uranium and rare earths, which have not yet been proven commercially viable.

Aside from these long-term prospects for developing Burundi's mineral deposits, few other interesting opportunities exist for American business. There are possibilities for investing in small or medium-scale projects, which include a $7.8 million sugar production scheme presently in the planning stage, and in occasional World Bank or other international organization projects, on which U.S. firms can bid and which the embassy routinely brings to the attention of potentially interested United States companies.

Generally speaking, however, it would be necessary for any interested U.S. venture to develop a close relationship with officials in order to have a chance of participation in interesting projects and commercial developments in which Belgian, Italian and German interests, already in place, have an edge. Moreover, these nationals and others in European states often have the sole meaningful bidding rights on aid projects sponsored by the EEC or their own governments.

Thus, American commercial activity in Burundi for the immediate future will probably follow the 1975 format, in which sales totaling about $2.5 million (about 6 percent of Burundi's imports) were mainly distributed as follows: wheat flour, $889,000; used clothing, $348,000; and rice (for brewing beer), $222,000.

Local merchants have maintained that all types of American hardware and tools, electrical equipment and pharmaceuticals, for example, are competitive, but that so far American suppliers, only several of whom are represented locally, have shown little interest in pursuing these generally small volume and low value sales opportunities.

In 1975, the United States purchased 48 percent of Burundi's coffee. Common Market countries, led by Germany (which took 27 percent of the crop) bought the rest. These statistics signal continuation of a trend toward broader distribution of Burundi's coffee clientele; in 1967, 1972 and 1973, the United States bought 94, 79 and 62 percent, respectively, of the total crop. Nonetheless, it is probable that the United States, which offers the advantage of buying a large percentage of the crop without meticulous attention to grade, will continue for a long time as Burundi's best coffee customer, and therefore, at the same time, one of its most important trading partners. The U.S. role as a coffee client may become even more important as Burundi, with continuing World Bank help and a smoothing out of paralyzing world coffee price fluctuations, progresses toward its goal of an average annual production of 30,000 tons by 1980.

Sierra Leone Looks Beyond Mining, Wants To Diversify

Mining continues to dominate the economy of Sierra Leone, according to the U.S. Embassy in Freetown. However, because of a recent slump in the west Africa nation's mining industry, awareness is growing that Sierra Leone should develop other sectors of its economy and that agriculture offers great potential.

The government's program of achieving self-sufficiency in rice is progressing, with rice imports showing substantial decreases. Industrial development focuses on the promotion of export-oriented agro-industries that utilize raw materials made in Sierra Leone. Government investment is continuing in the areas of transportation, but persistent government budget and balance of payments problems will result in reduced development expenditures and delays in development projects.

The biggest development in the mining industry during 1975 was liquidation of Sierra Leone Development Corp. Ltd. (DELCO) and closing of its Marampa iron mine. The Marampa mine had contributed approximately 10 percent of Sierra Leone's exports by value, and had employed 2,600. Efforts by the government to interest other parties in taking over operation of the mine have been unsuccessful thus far.

Still the biggest industry

Diamond mining remains the most important industry in Sierra Leone. However, prices have been relatively low in recent months and production is declining as reserves are depleted. The diamond industry also faces the traditional problems of illicit digging and smuggling.

New investment in rutile mining ventures by a German firm, Bayer Preussag, and an American firm jointly owned by Nord Resources and Bethlehem Steel, will contribute to exports and development.

Despite the country's poor economic performance, President Siaka Stevens' All Peoples Congress (APC) remains in control of a basically settled political scene. A recent Cabinet reshuffle was carried through without difficulty.

The resumption of rutile mining by an American firm will increase the importance of economic ties with the United States. If potential U.S. investments in iron ore mining materialize, exports to the United States will be further increased.

U.S. imports of diamonds and agricultural products probably will remain at about present levels for the next few years. Sales of U.S. wheat are likely to continue at present levels while sales of rice will decline from past figures as Sierra Leone approaches self-sufficiency in rice production.

Sales opportunities for American products in Sierra Leone are limited. The government probably will restrict imports for at least the next two years as part of its efforts to correct the balance of payments deficit. Opportunities for major sales of electric generating, transport and communication equipment to the government exist, but are constrained by the tight budget and difficulty of securing financing through international channels. Sierra Leone will be interested in buying U.S. products and technology which will lead to decreased imports or increased exports.

U.S. investment in Sierra Leone can be expected to grow over the next five years. U.S. firms are active in mining investments and opportunities for investments in small manufactures, fishing and food processing exist and deserve cultivation. Sierra Leone's Five-Year National Development Plan clearly recognizes the need for foreign capital and technology.

Incentive for investors

As a beneficiary developing country under the U.S. Trade Act of 1974, Sierra Leone enjoys duty-free access to the U.S. market for many products. Similarly, as a party to the Lome Convention, Sierra Leone's exports qualify for special access to the European Common Market. Freer access to these markets may provide another incentive for investors interested in exportable products. At the same time, progress of the Mano River Union, especially in the areas of customs harmonization, joint planning on industrialization, and improved transportation links, will enhance the outlook for investments designed to serve the regional market. Investors, however, will have to assess each proposed project carefully in light of Sierra Leone's present financial and balance of payments problems.

SIERRA LEONE SITE—*A dragline at work at a National Diamond Mining field at Yengema. Diamond mining is Sierra Leone's most important industry.*

Mali Has Some Opportunities For U.S. Exporters, Investors

The rate of growth of the Malian economy has been rather modest for more than a decade, due to limited and irregular growth in agricultural production and a relatively slow expansion of industrial activities, reports the U.S. Embassy in Bamako.

A return to more normal weather conditions in the second half of 1974 permitted a sizable recovery in agricultural production in 1975, and real GDP of the west Africa nation showed a growth rate of approximately 25 percent. While the secondary and tertiary sectors continued to grow at about the same rate as in the previous year, the strongest growth impetus emanated from the primary sector, especially from agriculture—as a result of the return to normal rainfall conditions.

The government's financial situation, which has shown a regularly increasing overall deficit in recent years, deteriorated even further in 1975. The overall deficit rose by 36 percent, mainly due to acceleration in the growth of current expenditures and to rising wages. The financial position of Mali is weak.

The investment climate for U.S. business remains favorable in Mali. "Ordinnance 26 of May 23, 1969," the basic Government of Mali Code of Investments, offers certain incentives, mostly in the form of tax-free privileges for 5 to 10 years, to companies prepared to invest in several areas of interest to the government, e.g., food handling and processing industries, veterinary products, metallurgical industries, energy production, construction and tourism. Although Mali has abided by its investment code, manufacturers have been and will probably continue to be required to offer the government a percentage ownership (10-50 percent).

No problem should develop concerning the use of foreign technical and managerial personnel as long as their numbers are limited and well defined in the initial agreement. This agreement is all-important to the new investor in Mali and should cover all possible contingencies since changing the agreements is difficult after they have been approved by the government.

The agreement should undoubtedly specify the wages and salaries of employees as well as selling prices of the company's products. These will remain subject to government regulations.

Mali does not prohibit the importation of goods from any specific country; however, inter-government agreements make products from the Common Market area more profitable than those from other countries at present unless one has tax-free privileges.

There are formidable hurdles to overcome for any U.S. company which decides to invest in Mali: the company will be required to deal almost exclusively in French; there is a dearth of qualified Malian personnel in management and technical fields; Mali's infrastructure is not well developed; and finally, service facilities and personnel to keep equipment "on-line" are very limited. Along with those factors, it should be pointed out that the pace of doing business in Mali is slower than in the United States. The possibility of a small market is another important factor to consider.

The two largest U.S. direct investments in Mali at present are Texaco, with $1.1 million in current marketing; and Mobil Oil, with roughly $1 million in marketing activity.

The most promising areas of investment can be found in agro-industry, meat processing, transportation of meat products and possibly vegetable processing. These fields present opportunities for American technology to be quickly and effectively utilized. At the same time, investment would have to be channeled in a direction that the government favors.

Mexico's Petroleum Company Lists Equipment Purchases

Pemex, Mexico's state petroleum company, has estimated its purchases during the 1977-1982 period at $6.2 billion to be spent domestically and $3.1 billion abroad. Refinery production is to be doubled to 1.778 million barrels per day and petrochemicals increased to 18.7 million from 4.5 million bpd.

A copy of the list of planned acquisitions by category is available from Mexico/Central America/OIM, Room 4031, U.S. Department of Commerce, Washington, D.C. 20230.

Change In Algerian Workweek

Algeria has instituted an Islamic workweek. Offices of ministries and state corporations are now open Saturday through Wednesday. The American Embassy in Algiers has followed suit, and will be closed Thursdays and Fridays.

Calendar For World Traders

Oct. 12—New York—World Trade Club meeting. George R. Holloway, Vice-President, Johnson & Higgins, will discuss Current Trends in FCIA/Eximbank Programs.

Oct. 13—Jamesburg, N.J.—State Chamber of Commerce seminar on Trade with Japan. Art Miyakawa of Commerce's Office of International Marketing will speak.

Oct. 13—Erie—International Trade Executive Club meeting on International Economics. Stanley Katz, Deputy Assistant Secretary of Commerce for International Economic Policy and Research, will speak.

Oct. 13—Chicago—Doing Business in Israel seminar, Hyatt Regency. Sponsors: American-Israel Chamber of Commerce/Midwest, Commerce District Office. Gayle Reichhardt of the Commerce Action Group for the Near East will speak. For information: 312-641-2937.

Oct. 13—New York—Course on International Business Financing begins, Pace University School of Continuing Education. Co-sponsored by Commerce District Office. For information: 212-285-3355.

Oct. 13-14—New York—Seminar on Brazil: Reassessing the "Miracle," World Trade Institute.

Oct. 14—New York—Overseas Automotive Club luncheon meeting, Summit Hotel. Government of Malaysia Investment Mission to the U.S. will attend.

Oct. 15-16—Washington, D.C.—Middle East Institute's 30th Annual Conference, in conjunction with Johns Hopkins University School of Advanced International Studies, Mayflower Hotel.

Oct. 18-19—New York—Seminar on Risk Management of Foreign Investments and Operations. Sponsors: Wharton School of University of Pennsylvania, Foreign Policy Research Institute. For information: 212-953-7262.

Oct. 18-21—New York—Separate World Trade Institute seminars on Export Development; Export Documentation and Traffic; International Licensing, Franchising and Distributorship Agreements; and The Financial Officer's Job in the International Company.

Oct. 19—Portland, Ore.—FCIB International Forest Products Credit Group luncheon meeting, Sheraton Inn Airport.

Oct. 20—Boston—Eximbank seminar presented by officials of Eximbank & FCIA, Hyatt Regency Hotel. Sponsor: International Business Center of New England. For information: 617-542-0426.

Oct. 20—New York—Seminar on The Role of the Freight Forwarder, International Executives Assn.

Oct. 20-21—Columbus, O.—Chamber of Commerce conference on New Horizons in International Trade. J. Mishell George of Commerce's Bureau of East-West Trade, will discuss Future Trade Opportunities.

Chicago Hosts Export Talks

An Export Matchmakers Conference, pairing small manufacturers with highly qualified export specialists, will be held Oct. 30-Nov. 1 at the McCormick Inn in Chicago. This event, featured by exhibits and seminars, is being sponsored by the Overseas Sales and Marketing Assn. of America and Commerce Chicago District Office, in cooperation with District Export Councils, State of Illinois, Chicago Assn. of Commerce and Industry, and International Trade Club of Chicago.

Oct. 20-22—Ann Arbor—Seminar on Licensing: A Profitable Way to Reach Foreign Markets. Presented by University of Michigan, 313-763-1387.

Oct. 21—New York—FCIB Drug, Chemical & Food Export Club luncheon meeting, Summit Hotel.

Oct. 21—San Francisco—Seminar on Marketing Prospects and Techniques in Venezuela, Holiday Inn (Union Square). Thomas Brewer of Commerce's Office of International Marketing will speak. For information contact Pan-American Society of San Francisco.

Oct. 21—Syracuse—Export Matchmaking Conference, pairing small manufacturers with highly qualified export specialists. Sponsor: New York Commerce District Office. For information: Robert Krause, 212-264-0628.

Oct. 21 — Chattanooga — World Trade Council meeting, Read House.

Oct. 25-29—Chicago—Seminar on How to Export From the United States, American Management Associations. Commerce speaker: Robert D. Foglesong, Assistant Director of Emergent Markets in the Bureau of International Commerce.

Oct. 26—Fargo, N.D.—Governor's Trade Conference, Town House Motor Inn. Sponsors: State of North Dakota, Upper Great Plains Transportation Institute, Commerce Omaha District Office. For information: 402-221-3664.

Oct. 27—Boston—International Business Center of New England seminar on Export Documentation & Traffic, Part II, Hilton Inn, Logan International Airport. For information: 617-542-0426.

Oct. 27—Seattle—Business Seminar: Economic Problems and Opportunities in the Middle East, First National Bank Auditorium. Speaker: Stephen E. Palmer, Jr. of State Department's Bureau of Near Eastern & South Asian Affairs. For information, Seattle Commerce District Office.

Oct. 27-29—Brussels—Ninth East-West Trade Conference. Sponsors: Management Centre Europe, European Headquarters of AMA.

Oct. 28—Sioux Falls, S.D.—Governor's International Trade Conference, Westward Ho Country Club. Sponsors: State of South Dakota, Greater South Dakota Assn., Commerce Omaha District Office. For information: 402-221-3664.

INTERNATIONAL BUSINESS REPORTS

Port of Baltimore Directory. 1976. 9th edition. 116pp. Limited copies available upon request.

Prepared by the Maryland Port Administration as a service to port users and other maritime interests. Designed to provide information about port services and personnel of business firms, public agencies and other organizations which make up the maritime community of Baltimore. A divided index has been added which lists organizations and personnel in alphabetical order.

Write: Port Promotion Dept., Maryland Port Administration, 19 S. Charles St., Baltimore, Md. 21201.

Survey of Oils. 1976. 34th annual edition. 192 pp. $13.50.

Recent price developments for Canadian crude oil and natural gas are focusing renewed attention on Canada's increasingly important petroleum industry. Value of production, spurred by higher prices, rose 28 percent to a record $6.3 billion in 1975. Increased prices in effect since the start of this year—with additional hikes in effect since July 1—mean still more revenue for the producers. The status of this industry—and its outlook —are reviewed in this survey.

Write: The Financial Post, 481 University Ave., Toronto, Ont. M5W 1A7.

Worldwide Business Opportunities

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors abroad. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about upcoming trade exhibits and trade missions, licensing and joint venture proposals, opportunities to sell to foreign enterprises and appoint agents, and details on major construction and expansion projects.

U.S. Promotions Abroad

For more facts on these and other U.S. exhibitions write: Director, Office of International Marketing, Rm. 4015, U.S. Department of Commerce, Washington, D.C. 20230. For trade missions: Rm. 6051, U.S. Department of Commerce, Washington, D.C. 20230.

Pulp, Paper and Converting Machinery and Equipment Trade Mission to Brazil. Dec. 1-10. The Brazilian pulp and paper industry has grown rapidly over the last ten years in order to satisfy an exploding domestic demand. Production doubled in the 1967-1973 period alone. Foreign investors have begun showing interest in Brazil as a source of pulp and paper for the world market over the medium and long-term. To date, exports have not been significant, and imports have grown substantially. However, ambitious plans have been announced to make Brazil both self-sufficient in paper and a major exporter of pulp (two million tons) by 1980. William J. Bushwaller, 202-377-4511.

U.S. Exhibition in Second Dakar International Fair. Dec. 3-12. In 1974 this exposition attracted 500,000 visitors with 670 firms from 44 countries participating. Senegalese development expenditures of over $500 million a year, rising interest in U.S. sources of supply, an improved U.S. competitive position due to the recent ending of EEC reverse preferences, and extensive regional sales prospects, provide enterprising American firms an excellent opportunity for market penetration and development. Philip Michelini, 202-377-5148.

Catalog Exhibitions on Do-It-Yourself Equipment and Products. Brussels, Dec. 4-12, and Utrecht, Jan. 24-30. These shows will be organized by the U.S. Department of Commerce at two major European exhibitions, "Hobby 76" at the Rogier Center in Brussels and "Karwei 77" at the Royal Netherlands Industries Fairgrounds in Utrecht. The growing cost of services related to home rehabilitation, limited expansion of new construction, inflation and tight money are encouraging growth in the do-it-yourself field in both Belgium and the Netherlands. These trends also have made U.S. products more price competitive in Europe and have created an excellent marketing opportunity for those manufacturers selling do-it-yourself equipment or products. Call 202-377-3973.

Hospital and Medical Equipment and Supplies Catalog Exhibit. Port of Spain, Trinidad and Santo Domingo, Dominican Republic. Dec. 6-10. Both countries are embarking on and updating programs in the field of health care. Trinidad, entirely dependent on foreign suppliers for its hospital and medical equipment and supplies, has obtained sizable loans from the World Bank and the Inter-American Development Bank to implement its programs. The Dominican Republic is attempting to expand its health care into the rural areas, while fortifying existing facilities and building new ones in its cities. Both countries place increasing emphasis on the purchase of medical and surgical equipment, hospital equipment and disposables. Call 202-377-3973.

Industrial Process Controls Exhibition and Seminar. U.S. Regional Trade Center, Singapore. Dec. 6-10. The Singapore Government's plans for a major petrochemical complex and new construction in the electrical energy sector are expected to push sales of process control instrumentation to $12.5 million by 1978. Singapore's requirements for these products are met entirely by imports. To participate contact J. Lee Barnes, 202-377-3893.

ECOLOGY '77—Environmental Purification and Pollution Control Instrumentation and Equipment. U.S. Trade Center for Scandinavia, Stockholm. Dec. 6-10. Sweden, Norway, Denmark and Finland, currently and individually warring against pollution, have programmed an aggregate total of $2 billion plus to be spent on environmental protection by 1984. A significant portion of this amount will be earmarked for the purchase of instrumentation, equipment and controls. Louis Quay, 202-377-3089.

Offshore International Exhibition. Birmingham, England. Dec. 7-10. The continuing development of North Sea oil resources offers good opportunities for U.S. suppliers of oil and gas field exploration, production and transmission equipment, instruments, systems, supplies and services. U.S. exports of oilfield equipment and pipe to countries active in the North Sea oilfields are substantial and growing. U.S. exports to the United Kingdom alone in 1975 totaled $32 million, up from $19 million in 1974 and $11 million in 1973. Five new North Sea fields are expected to open by the end of this year. A $3 billion market for products and services is expected in 1976, with the total rising to $5 billion by 1980. Official exhibits will be mounted by many countries. George A. Kemp, 202-377-3713.

Advanced Business Equipment and Systems Exhibition and Seminar. Taipei. Dec. 13-17. This JEEP (Joint Export Establishment Promotion — for new-to-market participants only) will focus on a rapidly growing market in the Republic of China. The economy in Taiwan has recovered strongly from the recent world recession. Imports of U.S.-produced business equipment and systems are expected to reach $17.5 million by 1979—up from $11.2 million in 1974. Peter Wilson, 202-377-4227.

Building Products and Construction Equipment Catalog Exhibit. Philippines, Thailand and Malaysia. January. All three countries are initiating aggressive building programs and expect to import most or all of the building products and construction equipment required. Pre-engineered and modular construction are either established techniques or are gaining wide acceptance in all three markets. Reinforced concrete, wood-frame, hollow building block, and structural steel are the common building techniques. Aluminum and wood are used for window and door frames. Call 202-377-3973.

Water Resources Specialized Trade Mission. Iraq, Saudi Arabia, United Arab Emirates. January. Iraq may be spending $5-$9 billion on water resource development, including six major dams and numerous municipal water system projects. In Saudi Arabia, a governmental review of six water resource surveys has generated new ideas to meet water requirements. According to the American Embassy in Jidda, the timing of this mission is ideal. Projects under consideration will run into the billions of dollars. Upcoming projects in the UAE include desalination stations, reservoirs, pumping stations, and new sewer plants. The U.S. Bureau of Reclamation soon will undertake a hydrological survey of the UAE, with future projects expected to result. Wanda Ale, 202-377-4756.

Building and Construction Specialized Trade Mission. Iran and Israel. January. Growth in Iran's building and construction sector has averaged nearly 40 percent annually over the past three years. According to that country's current five-year-plan, some $6 billion is targeted to housing construction. Other major projects include port development, power plants, hospitals, refineries and factories. Major construction projects in Israel include entire new towns, an industrial complex, shipping and recreation centers, and various plants and factories. Call Bill Bushwaller, 202-377-4511.

Pet Products Exhibit (JEEP). Paris. Jan. 10-13. By 1985, France is expected to be the largest market in all of Europe for pet foods and accessories. Its 51 million residents currently care for some 7.5 million dogs, 7.5 million cats and the contents of 2 million bird cages and 1 million aquariums. One family in two has at least one pet. Because of the market's growth rate, good opportunities exist for American firms to introduce new products. Some 6-8 new-to-market firms will be eligible for this event. Ned Krause, 202-377-5381.

Data Communications Equipment Exhibi-

tion. U.S. Trade Center, London. Jan. 10-14. The U.K. data communications market, presently estimated at $150 million, is expected to reach $175 million by 1980. Imports account for over 90 percent of domestic consumption of this equipment, with the U.S. share above half. Items to be emphasized are computer peripheral controllers and interface devices, combination I/O devices and processors, input equipment, output devices, and parts and accessories of data communications systems. Anita F. Brownstein, 202-377-4443.

Electronics Production and Test Equipment and Electronic Components Catalog Exhibit. New Delhi and Bombay. Jan. 10-20. India is currently making a determined effort to accelerate the overall development of its electronics production capability. The U.S. currently holds 75-80 percent of the total Indian import market for production and test equipment, and in 1974 the U.S. accounted for 46.5 percent of Indian imports of electronic components. Both markets should be expanding greatly. Call 202-377-3973.

Timber Industries Equipment Catalog Exhibit. Madagascar, Zaire and Central African Republic. Jan. 13-25. These countries manufacture little of the equipment necessary for these industries. Although there is immediate sales potential only in the C.A.R., Madagascar has taken a World Bank loan for a major pulp mill project within the next five years, and Zaire is in need of retooling and expanding its timber industries in the near future. C.A.R. and Madagascar have eliminated tariffs against the U.S., and this, combined with devaluation of the U.S. dollar, has made U.S. timber industries equipment much more price competitive. Call 202-377-3973.

Port Development Technical Sales Seminar. Algeria, Tunisia, Qatar. Jan. 15-24. Oil and gas-rich Algeria is giving high priority to continued expansion of its ports to facilitate massive import needs and better control its export of hydrocarbon products. Extensive interest exists in containerization. Tunisia's main port of Tunis-La Goulette needs improved cargo handling and transportation facilities, and increased use of roll-on/roll-off vessels will necessitate changes in equipment and infrastructure at all of its ports. Prospects in Qatar are best for supplies of port and harbor equipment and port management services, as it considers recommendations for expansion of present ports and possible construction of a new port. Call E. Lee Carteron, 202-377-2973.

Microwave Technology and Test Instruments—Joint Export Establishment Promotion (JEEP). U.S. Trade Center, Paris. Jan. 19-21. With the French Government's recently announced plan to expend $30 billion during the next 5 years to modernize the national telephone system and with the recognized technical superiority of U.S.-made microwave products and test equipment, France promises to be a prime export market for U.S. manufacturers. Featured will be components, circuits, test and measurement instruments, equipment and systems, and antennae. Contact George Ruffner, 202-377-5381.

Motor Vehicle Maintenance Equipment, Replacement Parts and Supplies Exhibition. U.S. Trade Center, Mexico City. Jan. 25-28. The Mexican motor vehicle census has increased from 800,000 passenger cars, trucks and buses in 1960 to 3.2 million in 1974. Mexican purchase of motor vehicle replacement parts, service equipment and automotive chemicals was $194 million in 1974 and is expected to more than double by 1980. Mary R. Wiening, 202-377-4463.

Business Equipment and Systems Exhibition. U.S. Trade Centers, Paris, Jan. 31-Feb. 3; London, Feb. 8-11. These events will provide exceptional sales opportunities for American manufacturers. Past experience has shown that they attract executives influential in the purchase of equipment. The U.S. Trade Centers in Paris and London provide an effective and economical means of reaching buyers or setting up distribution. Exhibitor's contribution fee is $900 for companies new-to-market and $2,000 for those already established. Dwight L. Umstead, 202-377-4414 or 2177.

Avionics and Ground Support Equipment Technical Sales Seminar. Greece, Italy and Yugoslavia. Feb. 1-10. Seminar sessions will be conducted in Athens, Rome and Belgrade. "State of the art" presentations emphasizing the latest technological achievements in specific areas of avionics and ground support equipment will be given. Product categories to be included encompass communications such as traffic controls and flight instrumentation such as navigational aids commonly found in aircraft. Also, terminal support equipment and products used to test and service aircraft and aircraft engines as well as baggage and cargo handling systems. Airport and aircraft requirements are expanding rapidly as efforts are made to modernize and improve air transportation systems in these countries. W. Bradley Tyrrell, 202-377-5285.

Medical Equipment Technical Sales Seminar. Czechoslovakia, Hungary, Poland. Feb. 1-15. Officials of these three countries have expressed deep interest in purchasing American medical equipment to improve their health care systems. This seminar will provide a proven, effective method to develop markets in Eastern Europe. Gary Roberson, 202-377-3376.

Hi-Fi Equipment Exhibition. U.S. Trade Center, Milan. Feb. 4-7. A special opportunity to show and sell the latest in hi-fi equipment is being offered to a limited number of American manufacturers. The U.S. Trade Center staff in Milan will launch an exceptional promotional campaign aimed at the widest possible trade and consumer audience exposure. AM-FM stereo equipment, amplifiers, speakers, synthesizers, electric guitars, tuners, microphones, headphones and complete amplifier systems are some of the items that will make up the exhibition. Call Mike Springmann, 202-377-2762.

Poultry Equipment Mini-Exhibit/Seminar. U.S. Commercial Office, Moscow. Feb. 7-10. The USSR's 1976-80 Five-Year Plan calls for a 100 percent increase in poultry production to be achieved by more mechanization and introduction of progressive techniques. New mechanized poultry farms and factories are planned and existing poultry farms are to be rebuilt using new machinery and technology that must be imported. Call Richard Bell, 202-377-5163.

Maritime USA '77—Port and Shipbuilding Exhibition. Kaohsiung. Feb. 7-11. The market for maritime, port and shipbuilding equipment in the Republic of China is growing at a rapid pace. Imports are estimated to reach $317 million by 1979. U.S. manufacturers are expected to supply one-third of this market, which consists of both government and private enterprises. Dave Horridge, 202-377-2798 or 5545.

Electric Energy Systems Exhibition and Seminar. U.S. Regional Trade Center, Singapore. Feb. 7-11. U.S. firms supplying this equipment have excellent markets in Singapore, Malaysia and Indonesia in both private and public sectors. Imports by Singapore alone totaled $172 million last year with strong growth expected. This exhibition, featuring generation, transmission and distribution, and instrumentation equipment, provides direct access to all three markets. Space is limited. Call Helen Burroughs, 202-377-2051.

International Houseware Fair. Cologne. Feb. 12-14. Products to be exhibited at the American Pavilion include: domestic machines and appliances, kitchen utensils, household and cleaning aids, incidental furniture and wicker articles, cutlery and flatware, fine metalwares and tableware articles, gift items, and arts and crafts. Germany's 62 million people live in 23.7 million households and spent $3.6 billion in 1975 on housewares. The market is expected to increase 3.5-5 percent annually during the next 3 years. Scheduled to coordinate with the International Hardware Fair, which in 1977 is expected to attract more than the 20,000 trade visitors from 64 countries recorded in 1976. Don Schmadel, 202-377-2177.

Printing and Graphic Arts Exhibition, U.S. Trade Center, Tokyo. Feb. 14-18. Carefully researched projections of the Japanese market for printing and graphic arts equipment indicate a growth from $290 million to $335 million over the next three years. In 1979 total imports will approximate $83 million with the U.S. share exceeding $25 million. Imported equipment will include typemaking and typesetting machinery, presses, bookbinding machinery, and photographic equipment for the graphics industry. Purchasers will be interested in both new investment and replacement equipment. During the recession period of 1974-1975 imports of printing and graphic arts equipment registered a 20 percent decline; however U.S. exports in this product category for the same period increased nearly 20 percent, demonstrating growing demand. Cantwell Walsh, 202-377-4056.

Printing & Graphic Arts Equipment Product Literature Display. Johannesburg and Cape Town. Feb. 14-25. Trade sources indicate that for 1976-1980 a general growth rate of between 10 and 12 percent can be expected for printing and graphic arts equipment in South Africa. South Africa must import all of its printing and graphic arts equipment except for less sophisticated equipment such as sink units and washing equipment. Despite their appreciation for the quality and sophistication of American-made equipment in this field, a major share of the market goes to other suppliers. The primary reason is the lack of exposure of U.S. equipment in South Africa against the extensive promotion efforts conducted by U.S. competitors. This product literature display is important to offset these trends. Call 202-377-3973.

Agricultural Machinery & Equipment Exhibition. Guadalajara. Feb. 16-20. Mexican agricultural machinery and equipment imports are expected to exceed $110 million this year and are projected to increase by 25 percent annually for the next three to four years. Guadalajara is the second largest city in Mexico and one of its major agricultural centers. Call C. M. Cummings, 202-377-4463.

Pro-In '77, International Design Engineering Conference and Exhibition. Duesseldorf. Feb. 18-21. This exhibition, the second of its kind in Germany, will feature components, materials and technologies. It is international in scope and is structured to reach a broad market. Included are: materials, shapes and forms, mechanical and power transmission components, fluid power-hydraulic and pneumatic, electric and electronic power and control and joining systems and components. Don Schmadel, 202-377-2177.

Communications Equipment. U.S. Trade Center, Tehran. Feb. 27-March 3. The government is in the process of establishing a modern national communications system, and plans to expand communications facilities by 1000 percent during the next ten years. Iranian imports of communications equipment amounted to $185 million in 1972 and are projected to increase to $400 million by 1980. The majority of this equipment will be imported, since Iranian manufacturing capability in the field is limited. Karl Reiner, 202-377-2952.

Equipment and Textiles for Sewn Products Exhibition. U.S. Trade Center, Milan. March 8-11. Italian imports of equipment and textiles exceed $53 million. The U.S. Government is offering American manufacturers of such equipment an outstanding opportunity to substantially increase the U.S. market share. Italian customers for equipment and textiles for sewn products are presently in a position where they must innovate and modernize facilities, and require the latest equipment and highest quality textiles. Marcia Griffin, 202-377-4509.

Motor Vehicle Maintenance Equipment, Replacement Parts, and Supplies Catalog Exhibit. Nigeria, Zaire and Zambia. March 9-22. As a result of Nigeria's oil revenues the government has devised a five-year $50 billion development plan to cover all sectors of the economy and raise the national standard of living. A substantial part of the plan will be devoted to maintaining and expanding infrastructure ($7 billion for highway construction alone). Nigeria is still wholly dependent on imports to satisfy motor vehicle maintenance equipment needs. Couple the Nigerian demand for imports with the surge in motor vehicle assembly plants and there will be strong demand for maintenance equipment and parts for the foreseeable future. Zambia is a landlocked country and thus has to rely heavily on land transport systems to move copper to foreign ports. Zaire has been actively seeking direct foreign investment to enable it to grow. Foreign aid has been directed towards the agricultural and transportation sectors. 202-377-3973.

Industrial Instrumentation. Leipzig Spring Fair, German Democratic Republic. March 13-20. The second U.S.-sponsored exhibition at Leipzig will feature industrial instrumentation primarily applicable to the machine tool and processing machinery construction industry, the chemical industry, and the electrical engineering industry. Emphasis on these sectors is based on a realignment of economic policy goals calling for reinforcement of the raw materials base, an increase in and improvement of consumer goods to the public, and a production increase in the export sector. Buyers and trade officials from throughout Eastern Europe and the Soviet Union see this as their opportunity to inspect western goods and make purchasing decisions. Closing date: Oct. 31. Richard Bell, 202-377-5163.

Building Products and Systems, Construction Equipment and Architectural Hardware Exhibition. U.S. Trade Center, Tokyo. March 14-18. In 1974 the Japanese market for these products was $34 billion. The forecast for 1980 is $54 billion. New construction there is strongly influenced by western style and ideas. Private and public construction in 1974 was 2 million units valued at $67.9 billion. The 1980 projection calls for 3.1 million units at $110.1 billion. The Japanese seek advanced design interior and exterior building products of quality, and knowledge of building systems and methods that U.S. manufacturers can supply. Robert Levine, 202-377-4056.

Commercial and Industrial Security Equipment Exhibition. London Trade Center, March 14-18, and Milan Trade Center, March 22-26. Strong and growing demand for this equipment has been identified by recent market research. The combined market for Italy and the United Kingdom amounts to about $350 million, of which about one third represents imported equipment. Products having high sales potential include intrusion alarm devices, security cameras, closed circuit television systems, access control equipment, fire detection alarms, automotive checking systems, anti-shop lifting devices, "bomb sniffers" and many others. Contact Sam Spaulding, 202-377-4508.

Tokyo Anti-Pollution Exhibition, TAPEX '77 Trade Fair, Harumi Pier, Tokyo. March 14-18. Japan's remarkable economic and industrial growth has spawned the worst aspects of high-paced industrial development with all forms of accompanying pollution: air, water, solid waste and noise. Demand for pollution control instrumentation alone will be $390 million by 1980 reflecting an annual growth rate of 15 percent. By the end of 1976, the Ministry of International Trade and Industry estimates, the market for all pollution corrective equipment will top $3.27 billion. Pollution technology offers opportunities for advanced U.S.-designed corrective equipment and instrumentation. Mara Yachnin, 202-377-5751.

Hotel and Restaurant Equipment/Franchising U.S.A. Stockholm. March 14-18. Promotion is aimed at Sweden, Norway, Denmark and Finland. In Sweden purchases of hotel/restaurant/institutional feeding equipment totaled $45 million in 1975—half by the public sector, 10 percent by employees' cafeterias and the remainder by hotels and restaurants in the private sector. These sales are expected to increase 9 percent annually over the next several years. The concept of franchising has been in the testing phase in Sweden but now appears to be entering the take-off stage. Jim Price, 202-377-2797.

Pumps, Valves and Compressors Catalog Exhibit. Bombay and New Delhi. March 14-24. India's five-year plan calls for an $18 billion industrial development program ($11.1 billion to public sector, $6.9 billion to private/cooperative sector) to maximize current output and create new capacity in certain target industries, including fertilizer/chemical, petroleum exploration and refining, petrochemicals, electric/nuclear power and industrial process equipment. India imported $35 million worth of PVCs during the fiscal year ending March 31. The U.S. share of this market has consistently run at about 33 percent. India's imports of PVCs are projected to total $143 million through March 31, 1979. 202-377-3973.

Computer Equipment Trade Mission to Belgium, Netherlands and Luxembourg. March 14-25. Will focus on computer applications for business efficiency and will promote such equipment as minicomputers, on-line point of sale systems, stock control and distribution systems, input devices for electronic computers such as optical character recognition (OCR), high speed printers, programmable terminals with local mass storage, and bank and financial terminals. Will also include computer programming and other software services. The U.S. share of computer imports into the Benelux countries is currently 84 percent for minicomputers, 23 percent for small, medium and large computers, and 23 percent for peripheral equipment. Bobette K. Orr, 202-377-4941.

Exhibit and Technical Seminar on U.S. Water Pollution Monitoring and Analysis Instrumentation and Systems. March 21-25. U.S. Commercial Office in Moscow. The purpose of this exhibit/seminar is to explore trade opportunities for U.S. water pollution equipment through discussion with a highly selected group of Soviet foreign trade officials, scientists, technicians and end-users. Each participating U.S. firm will be responsible for mounting a small exhibit and presenting a technical paper. Limited to seven companies. Judith Robinson, 202-377-3376.

Metalworking Machinery and Equipment (METALQUIPOS '77). Caracas. March 21-26. A 50 percent annual growth is expected over next three years in U.S. sales of metalworking machinery to Venezuela as that oil-rich country begins to invest $13 billion in metal-producing, automotive, tractor, ship repair, and home appliance industries. Exhibitors will receive full range of marketing services, including booth design and construction, VIP receptions, extensive market promotion campaign. Steve Hall, 202-377-4832.

Agricultural and Food Processing Equipment. Budapest. April 15-20. Hungary relies on exports of agricultural products and processed foods to earn hard currency. AGROMAS EXPO is an opportunity to meet Hungarian buyers and end-users at a specialized commercial exhibition. Mike Frisby, 202-377-5186.

Hydraulic, Pneumatic and Advanced Fluid Power Systems, Equipment and Components Exhibition. U.S. Trade Center, Tokyo. April 18-22. A seminar will be included. The Japanese recognize superiority of U.S. production. In 1975 the market for both hydraulic and pneumatic power systems was $519.7 million. The market in Japan for hydraulic power systems will grow 10 percent annually for some time, while annual growth for pneumatic power systems will be somewhat less. Robert Levine, 202-377-4056.

Automotive Maintenance and Servicing Equipment Exhibition. U.S. Trade Center, Taipei. April 18-22. The market for this equipment in the Republic of China is expected to increase by 50 percent to about $12.7 million by the end of 1977, with the U.S. supplying approximately one-fourth. Rapid industrialization with concomitant expansion of the highway network have led the government and private sectors to a growing awareness of the need for greatly improved safety and maintenance techniques. Charles D. Jones, Jr., 202-377-5545.

Plastics Production Machinery and Equipment Exhibition. U.S. Trade Center, Mexico City. April 18-23. Mexico's plastics industry is expected to register especially rapid growth over the next few years. Consumption of plastics production machinery has been increasing at almost 15 percent annually, to $35.2 million in 1976. Some 85 percent must be supplied by imports, and the U.S. is the major supplier. In a February 1975 exhibition of this equipment, sales results were $1.5 million off-the-floor and almost $11 million projected. A technical seminar will be included. Mary R. Wiening, 202-377-4463.

Scientific and Industrial Laboratory Instruments Exhibition. U.S. Trade Center, Paris. April 19-22. In 1975, the French market for laboratory instruments amounted to $154 million. Most was supplied by imports, of which the United States accounted for 30 percent. Imports from the U.S. are expected to continue providing about one-third of total imports of a market which in 1980 should be about $240 million. Market research shows a good market for chromatographs, mass spectrometers, oscilloscopes, N.M.R. spectrometers and automatic analyzers. Ned Krause, 202-377-5381.

Business U.S.A.—A Business Equipment Exhibition. Hong Kong. April 25-29. Automation of office procedures and a large demand for modern business equipment in Hong Kong will result in yearly market growth of 32 percent between 1976 and 1979. Imports are projected to reach $54 million by 1979, double the level of 1974. A full range of electronic office machines, copying/duplicating equipment, microfilm equipment, electronic banking machines, letter handling/addressing/mailing machines, paper/check/coin-currency handling machines, and dictation equipment is required for all phases of the business community. Joseph Burke, 202-377-5285.

Industrial Process Controls and Instrumentation Exhibit. Caracas. April 25-30. Venezuela, buoyed by oil income, is attempting to establish a modern industrial economy in the shortest possible time. Industrial process controls will be playing a major part in this development. By 1978 at least 90 percent of process control requirements will still be filled by imports and U.S. manufacturers are expected to hold a 64 percent share of the $32 million market; this is equal to a 16 percent annual growth rate over the $15 million imported in 1975. Hans J. Amrhein, 202-377-2332.

Food Processing & Packaging (FPP) and Agricultural Machinery & Equipment (AGME). Novi Sad, Yugoslavia. May 13-22. Yugoslav imports of AGME and FPP are forecast at $95 million and $55 million, respectively, for 1977. Government officials have recently designated self-sufficiency and increased export potential in these industries as a top national priority. The Novi Sad fair is prestigious, attracting exhibitors and buyers from 45 nations, including Eastern Europe and China. A full range of processing, forming, filling, sealing, wrapping and packaging equipment is required in FPP; opportunities for sales of AGME include all varieties of planters, spreaders, dryers, loaders, and large combines, planters and harvesters. Contact Kenneth Nichols, 202-377-2762.

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to any of the specific proposals listed.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230, or from any Commerce District Office.

OPIC indicates that the country involved is eligible for investment insurance coverage and financing from the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

HONG KONG—Seeks joint venture to manufacture **citizen band radios** for use in U.S. market. U.S. participants to provide technology and supplies of components. U.S. partner's participating capital is negotiable. Established 1954. Wing's Industrial Works, G.P.O. Box 2322. Cable, WINGSINDUS; telex, 85177 CHEN HX. P-76811.

1500 — AFGHANISTAN — Government seeks joint venture with experienced U.S. firm to establish **new construction company.** Organization would be responsible for carrying out all construction projects envisaged under Afghanistan seven-year plan. U.S. participant is offered up to 49 percent equity in new venture. Contact: President, Internal Trade Department, Ministry of Commerce, Kabul. P-76814. OPIC.

2711, 2721—UNITED KINGDOM—Firm seeks association with American publishers in **private newsletter field.** Topics of specific interest include politics, economics and finance. Firm wants to publish newsletters in U.K. on behalf of U.S. firms and would also like American firm to publish its material in U.S. Established 1939, has contacts worldwide. Allen L. Keyte, Director, Intelligence International Ltd., 17 Rodney Road, Cheltenham, Gloucestershire GL50 1JQ, England. P-76774.

3069, 3842—UNITED KINGDOM—Manufacturer of **inflatable life jackets and life rafts, protective clothing, flying coveralls, immersion suits and pressurized clothing,** seeks licenses to produce complementary products. Established 1952, company has 750 employees and is part of Allied Polymer Group, Ltd. R. Wharton, Dir., Beaufort Air-Sea Equipment Ltd., Beaufort Road, Birkenhead, Merseyside, England. P-76781.

3251, 3252, 3259—TURKEY — Seeks to establish tile factory for manufacture of **marble/resin floor and wall tiles.** Desires technical know-how and equipment. Desired end product is smooth finished tile, cut to size according to requirement, composed of marble chips, dust and polyester or epoxy resin as filler material. Established 1953. Overseas Products and Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-76810. OPIC.

3275—ECUADOR—Seeks joint venture to manufacture **prefabricated wallboard** of asbestos, synthetic fiber or fibercoated cardboard. U.S. participant would contribute capital, machinery and technology. Ecuadorean firm is interested in producing panels that average 8 ft. in length and contain space for laying air conditioning ducts, electrical wiring or water piping. Estimated annual consumption of domestic market, three million lineal feet. Firm is a major distributor of building and construction materials. Mrs. Joyce de Ginatta, Gen. Mgr., Mercantil Importadora Sucesores A. Ginatta C.A., P.O. Box 5124, Guayaquil. WTDR. P-76775. OPIC.

3296 — MEXICO — Manufacturer of refrigeration and air conditioning equipment for commercial and industrial use, seeks licensing agreements for production of **fiberglass products (reinforced plastic) for air conditioning housings and automotive applications.** Sr. Francisco J. Pietrini, Frigotherm-Macquay, Avenida Progreso 222, Tlalneplantla. Telephone, 905-565-7622; telex, 017-73944. P-76776.

3443—UNITED KINGDOM — Manufacturer of structural steelwork, pressure vessels, storage tanks and general fabrications, is seeking licenses for U.K. manufacture of **air coolers, pressure vessels and general fabrictions for oil-related industries.** Company employs 85. W. G. Elliot, Elbar Engineering Ltd., Moycroft, Elgin, Morayshire, Scotland. P-76777.

3462, 3714—UNITED KINGDOM—Manufacturer of steel components pressings and welded assemblies, and brake assemblies for automobile industry, is interested in producing under license **pressing components and assemblies for automotive and allied industries.** Firm established 1946, employs 150; current annual sales volume, $2 million. R. L. Davies, Dir., Associated Steels & Tools Co. Ltd., Union Mill Street, Horseley Fields, Wolverhampton WV1 3DP, England. P-76778.

3523—VENEZUELA—Large importer of agricultural and industrial equipment wants to represent **U.S. producer of irrigation equipment.** Seeks agreement with well established American company manufacturing broad range of irrigation equipment and systems, including mobile units such as wheeled self propelled and center-pivot types. Eric Nathan, Maquinarias Mendoza, Aptdo. 332, Avenida Sucre 363, Catia, Caracas. WTDR. P-76808. OPIC.

3524—FRANCE—Small manufacturer of equipment used by municipalities, such as bulletin boards, filing cabinets, wagons and trailers, park and garden equipment, wishes to produce under license **special**

carts, wagons, small refuse trailers. M. Marcel Reboul, Serrurerie Industrielle Vauclusienne (SIV), Zone Industrielle, 84100 Orange. P-76779.

3534—AUSTRALIA — Seeks license or joint venture to manufacture products in area of **hydraulic lifts,** other precision machined **hydraulic components.** Also interested in producing any products requiring precision machining. E. Davie, Gen. Mgr., ROC Hydraulics, 100 Silverwater Rd., North Lidcombe, N.S.W. 2141. P-76807.

3537, 3715—GERMANY — Manufacturer, distributor and exporter of transportation and construction equipment seeks licenses for manufacture of **trucks, trailers, and construction machinery, including special purpose vehicles, e.g. truck-mounted cranes, garbage trucks, and refrigerated trucks.** Firm presently exports approximately 70 percent of its production to Africa and Near and Middle East. Employs 70 workers, 4 sales agents. Horst Gassmann, Mng. Partner, ALGA Nutzfahrzeuge u. Baumaschinen GmbH, Heidornweg 1, Postfach 1164, 2139 Sittensen. P-76780.

3551—UNITED KINGDOM — Manufacturing licenses are desired for production of **food processing machinery,** such as filling machines and any other special purpose machinery. Company produces rock drilling machines, equipment for food processing plants, and is steel fabricator. Has 56 employees. A. Sprilyan, Mng. Dir., Williamson Engineering Ltd., Elliot Industrial Estate, Arbroath DD11 2ND, Scotland. P-76782.

3559—JAPAN — Leading manufacturer of water treatment and ion exchange equipment seeks licenses. Is looking for advanced technology for **solvent recovery systems, deodorizing systems and related disposal equipment.** Firm is particularly interested in obtaining technology for solvent recovery systems of activated carbon or other methods as well as incineration and catalytic combustion processes for disposal of recovered solvents. Recovery systems would be used in handling solvents such as toluene and acetone given off from printing, resin manufacturing and synthetic rubber manufacturing plants. Deodorizing system is for gases which give off offensive odors. Company employs 950, has licensing and trade arrangements with several major U.S. firms. Yoshihiko Aosaka, President's Office, Japan Organo Co., Ltd., 28-23, Hongo 1-chome, Bunkyo-ku, Tokyo 113. P-76809.

3559 — UNITED KINGDOM — Seeks licensing and/or representation agreement to manufacture-sell equipment in **water purification and effluent disposal sector.** Established in 1852, firm makes equipment for sewage and effluent treatment plants for industrial finishing, ceramic manufacturing, chemical and process industries. Has 350 employees, markets on worldwide basis; annual sales, £3.7 million. L. C. Hothersall, Mktng. Mgr., William Boulton Ltd., Navigation Road, Burslem, Stoke-on-Trent, Staffs ST6 3BQ, England. P-76783.

3559 — UNITED KINGDOM — Seeks licensing and/or agency agreements with U.S. companies to **manufacture/install municipal sewage plants, biological effluent treatment processes, flotation, clarification and other separation processes and major proprietary water treatment equipment.** Firm operates as engineer, fabricator and specialist in process plant building and manufactures water treatment systems, heat exchangers and process plant equipment. It has 130 employees, annual sales of £6.8 million and is subsidiary of Guest Keen & Nettlefolds Ltd. which has yearly sales of £819 million. P. J. Harris, Mng. Dir., GKN Birwelco Ltd., Mucklow House, Mucklow Hill, Halesowen, West Midlands B62 8DG, England. P-76784.

3559 — UNITED KINGDOM — Seeking licenses to manufacture and sell in U.K. and Europe **technically advanced equipment with applications in plastics field.** Especially interested in machinery for making plastic bags and containers of all types, such as **injection molders, blow molders and thermoforming machines.** Firm manufactures paper bag machines, web fed envelope machines, flexographic printing machines, paper converting machinery, ultra-violet drying equipment. Established 1933, employs 300; annual sales, £2.5 million. A. E. Shield, Mng. Dir., Beasley French & Co., Ltd., 20 Hartcliffe Way, Bedminster BS3 5RL, England. P-76785.

3561—NEW ZEALAND—Seeks licenses to manufacture **solar water pumps.** Officials at New Zealand Dept. of Scientific & Industrial Research have proposed that pump with following specifications could have good potential for New Zealand market: **Duty** — continuous running, pumping fresh water up to 90° C.; **drive**—electrical, 230V 50 Hz; **discharge pressure**—one to three meters of water (1.5 to 4.5 p.s.i.); **flow rate**—60 to 120 liters/hr. (15 to 30 gal./hr.); **noise level**—suitable for domestic situation day and night (probably 40 db maximum at motor); **suction lift**—none required; **internal pressure**—withstand 7½ meters of water 11 (p.s.i.); and **general**—price around US$30 in country of origin (in batches of several hundred). Minimum 10 year design life with no maintenance. Maximum input 30 watts, or as low as possible. J. S. Baty, Physics and Engineering Laboratory, Dept. of Scientific and Industrial Research, Private Bag, Lower Hutt, Wellington. P-76786.

3564—BRAZIL — Well known manufacturer of blowers and fans seeks U.S. technology to manufacture **two specific types of centrifugal ventilators** having following specifications: (1) Capacity, 21,180 c.f.m.; static pressure, 35½ in. H_2O; maximum r.p.m., 1750; sea level, 10 m.; inlet air temp., 30°C. Capacity may fall to 2118 c.f.m., but static pressure should not vary more than 10 percent. (2) Capacity, 18,835 c.f.m.; static pressure, 35½ in. H_2O; maximum r.p.m., 1750; sea level, 920 m.; inlet air temp., 30°C. Capacity may fall to 1884 c.f.m. but static pressure may not vary more than 10 percent. Eng. Joao Amorim de Souza Filho, Industrias Zauli-Rio Branco S.A., Caixa Postal 3302, Rua Salta Salta 192, 01135 Sao Paulo (SP). WTDR. P-76787. OPIC.

3567—FRANCE — Manufacturer of **industrial chimneys and pollution control equipment** seeks cross licensing agreement. Interested in producing industrial chimneys in France and licensing production of its equipment in U.S. Employs 48; annual sales, $1.1 million. Jean-Pierre Perdrizet, Gen. Mgr., Union Thermique S.A., 62, rue de la Republique, 93100 Montreuil. Telephone, 808-0166; telex, UNITERM 211 512. P-76788.

3569, 3811—INDIA—Seeks collaboration with U.S. companies capable of providing technical know-how and equipment for manufacture of **packaging machinery, chemical laboratory equipment and precision instruments.** Firm desires to produce following items: measuring instruments; cast iron products for metalworking industries, e.g., cast iron surface plates, v-blocks, slip gages or thrift blocks; packaging machinery for pharmaceutical industry, e.g., blister packing, capsule filling, ampoule filling, tube filling and tableting machinery; chemical laboratory equipment such as centrifuge, constant temperature bath. Firm owns a medium-sized iron and steel foundry which produces cast iron products for export to U.S. Established 1962. Write: Overseas Products & Investment Opportunities Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-76812. OPIC.

3569—JAPAN—A leading manufacturer of water and sewage treatment equipment seeks advanced **technology for recycling industrial wastes consisting chiefly of plastics.** Firm produces equipment for water, waste water and refuse treatment. It has sales offices in major Japanese cities, employs over 1,200. Presently has licensing agreements with several foreign firms. Kikuo Nasu, Dep. Mgr., Sales Headquarters, Ebara-Infilco Co., Ltd., Palaceside Bldg., 1-1, Hitotsubashi 1-chome, Chiyoda-ku, Tokyo 100. P-76789.

3573 — UNITED KINGDOM — Seeks licenses to manufacture **10-30 CPS printers, floppy disk units, low cost data entry devices and mini-computer systems.** Firm produces fast printer terminals and is distributor of minicomputer systems and peripherals. Ian Donaldson, Dacoll Group, 52 Templemere, Weybridge, Surrey KT13 9PB, England. P-76790.

3600—UNITED KINGDOM — Manufacturer of **cable holding devices and systems, cable identification products, insulation materials, electronic accessories, heat shrinkable products, cross linking processes, wiring systems and safety equipment,** seeks licensing arrangements for production of items similar to its current range. Established 1949. D. A. Bloor, Sales & Mktng. Dir., Hellermann Electric Div., Bowthorpe Hellermann Ltd., Gatwick Road, Crawley, West Sussex RH10 2RZ, England. P-76791.

3613 — UNITED KINGDOM — Seeks licensing agreements for manufacture of any product within fields of **low, medium and high voltage switchgear, and solid state control equipment.** Firm is manufacturer and importer of low voltage electrical control gear, electronic control equipment and high voltage electrical switchgear. Established 1947, employs 600; current annual sales volume, $2 million. Peter D. Burridge, Export Mktng. Mgr., M.T.E. Ltd., Progress Road, Leigh-on-Sea, Essex SS9 5LS, England. P-76805.

3613, 3679 — UNITED KINGDOM — Manufacturer of precious and base metal components seeks licensing agreements for production of **electrical contacts for relays and switchgear.** Established 1961, employs 100; annual sales, $2.2 million. Peter R. Bushell, Mng. Dir., P. & B. Metal Components Ltd., Tyler Way, Colewood Road, Whitstable, Kent CT5 2RR, England. P-76792.

3621—UNITED KINGDOM — Seeks to manufacture under license **small, low inertia d.c. motors and tachos.** Company makes synchros-resolvers, a.c. motors and stepping motors. Reports annual sales of $2.6 million, employs 200. D. R. Hunt, Mng. Dir., Moore Reed & Co., Ltd., Walworth Industrial Estate, Andover, Hampshire, England. P-76793.

3634—UNITED KINGDOM — Designer, manufacturer of electrical heaters and elements for industrial and consumer application seeks license to produce **new forms of electric heating elements.** Firm specializes in development of heaters for synthetic fiber industry, including process of heated transfer used in yarn industry for fiber texturizing. Would be interested in licensing this technology to U.S. company working in heat transfer. British firm has 300 employees; exports to Europe; is member of major industrial group. A. B. Dandy, Mktng. Dir., Heating Elements Ltd., Moat St., Wigston Magna, Leicester LE8 2GF, England. P76794.

3643—UNITED KINGDOM — Manufacturer/exporter of connectors, valve holders and marine safety equipment, seeks licensing agreements for production of **connector type products, e.g. DIL sockets and switches. Established 1937, employs** 600; current annual sales volume, $8 million. G. Mendez, Export Sales Adm., McMurdo Instrument Co., Ltd., Rodney Road, Portsmouth, Hants. PO4 8SG, England. P-76795.

3651 — UNITED KINGDOM — Seeks licensing agreements for manufacture of **audio accessories, i.e., cleaners, kits.** Firm is distributor/exporter of audio accessories, hi-fi products and pre-recorded cassettes. Current annual sales volume, $4 million. D. N. Mason, Mktng. Dir., Metrosound Audio Products Ltd., Audio Works, Cartersfield Road, Waltham Abbey, Essex EN9 1JF, England. P-76796. WTDR.

3713—UNITED KINGDOM—Small manufacturer of **cargo containers, vehicle bodies, refrigerated vehicles and glass-fiber-polyurethane sandwich panels,** seeks license to produce similar equipment. Established 1970, employs 20. S. H. G. W. Anderson, Mng. Dir., Body Engineering Ltd., Industrial Estate, Bridge of Don, Aberdeen AB2 8EZ, Scotland. P-76797.

3714 — UNITED KINGDOM — Large manufacturer / distributor / exporter of automotive seat belts, inertia reels, child safety equipment, motorcycle spares, is interested in manufacturing under license for distribution throughout U.K. and Europe products in **automotive safety equipment field and other automotive components and accessories.** Firm's current annual sales volume is £96 million. Russell Barker, Int'l Sales & Marketing Dir., B.S.G. Int'l Ltd., c/o Wingard Ltd., Kingsham Rd., Chichester, Sussex PO19 2UG, England. P-76798.

3820—GERMANY—Seeks licensing agreements for manufacture of **process control instruments,** e.g., warning indicators for methane gas, noise level indicators, pressure recorder, ozonometer, oxygen analyzers, ultra-violet radiation recorders and similar instruments for commercial and home use. Firm is a leading manufacturer of shooting ranges and bowling alleys. Gerhard Lorch, Ernst K. Spieth KG, Fritz Mueller-Str. 145, D-7300, Esslingen. P-76806.

3825—UNITED KINGDOM—Seeks licensing agreements for manufacture of high quality performance **test instruments.** Firm presently operates as manufacturer/agent of calibration equipment and as agent for electrical/electronic test instruments including d.c. and true RMS a.c. digital voltmeters and data logging equipment. R. S. Smith, Dir., Alcor (Engineer) Ltd., Penmark House, Woodbridge Meadows, Guildford, Surrey, England. P-76799.

3841, 3842—UNITED KINGDOM—Manufacturer and exporter of **water baths, incubators, ovens, sterilizers, drying cabinets, bio-hazard cabinets, autoclaves, heater boxes, magnetic stirrers and special thermal equipment,** seeks licensing agreements for similar items. Firm also seeks to manufacture **hospital supplies including chart trollies, drug cupboards and poison cupboards.** Established in 1969, employs 93; current annual sales volume, $1.3 million. G. G. Robertson, Mng. Dir., Laboratory Thermal Equipment, Greenbridge Lane, Greenfield, Oldham, Lancs. OL3 7EN, England. P-76800.

3999—UNITED KINGDOM—Producer of **planchettes** for use in manufacture of security papers, e.g. travelers checks, seeks licensing arrangement for manufacture of similar items. D. W. Spinks, Mng. Dir., D. W. Spinks & Co., Ltd., 406 Roding Lane South, Woodford Green, Essex 1G8 NEY, England. P-76801.

5000, 7000—ISRAEL — Largest commercial and entertainment center in country known as **Dizengoff Center** is under construction and expected to be completed by June 1978. Center, in heart of Tel Aviv, will comprise 250 business offices, show rooms and exclusive stores. Underground parking lot for about 1,000 cars is included in center which will be open for business 24 hours a day. Management of center is seeking licenses, franchises and/or joint venture agreements in fast food stores, restaurants and entertainment clubs. Interested U.S. firms should contact Eli Wagner, Sales Dept., Dizengoff Center Ltd., 50 Dizengoff St., Tel Aviv. P-76802. OPIC.

5812—ECUADOR—Reputable British gas filling station chain seeks U.S. **know-how and equipment to set up chain of drive-in restaurants.** Firm desires franchise arrangement. Raul F. Alvarado, Mgr., ECUALUBE—Ecuatoriana de Lubricantes S.A., P.O. Box 7037, Guayaquil. P76803. OPIC.

7399—UNITED KINGDOM — Seeks to share space and business overhead costs with U.S. firm wishing to establish U.K. base for procurement, inspection, consolidation of supply for North Sea and European Continental Shelf projects or for U.K.-based exports to Middle East. Firm is engineering company experienced in chemical plant, pumping, fabrication and pipework. Has full procurement administration, and telex services, plus manufacturing space if required. K. J. Harding, Dir., Vanroy Ltd., Harvey Works, Lingard St., Burslem, Stoke-on-Trent ST6 1EE, England. P-76804.

Benin Creates Monopoly For Meat, Poultry Imports

Benin's Societe de Developpement des Resources Animales (SODERA), a parastatal organization which came into being by Presidential Decree on June 28, will be charged with marketing, import, and export of livestock, meat, and meat products, and administration of the provincial, district, and communal livestock farms created during the recent national production campaign.

SODERA will function as a coordinating monopoly for the import of all meat and poultry products into Benin.

Private businesses will have to clear their import orders with SODERA which will take a commission. It will handle all internal marketing, acting as the intermediary between producers and sales outlets including local markets. Management is in the process of formulating plans to set up SODERA's own commercial contacts overseas, in an effort to obtain meat and poultry products at cheaper prices.

SODERA will need to purchase agricultural equipment, livestock feeds, or vehicles as it develops. The organization will also participate in livestock development projects. U.S. suppliers of livestock equipment or meat and poultry products may wish to contact: M. le Directeur General Pierre Tomagnimena, Societe de Developpement des Resources Animales B.P. 2041, Cotonou, Republique Populaire du Benin. Correspondence in French is desirable. P-76773. OPIC.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the United States under a licensing agreement or in partnership, write the Domestic Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-377-5361), referring to file number.

SWITZERLAND—Well known manufacturer of holding and positioning devices for use on machine tools offers for licensing its line of new **wedge bar chucks.** Offered items claim to represent genuine technological progress with respect to accuracy, performance, safe operation and wide range of applications. So-called bar chucks are manufactured to modular concept which allows easy replacement of used parts. Operation is purely mechanical, moving parts being moved by means of mechanical power transfer. Firm, established in 1700s, continues to have an excellent reputation. File 3156

TAIWAN — Inventor and U.S. patent holder of **high building escape installations** wants to sell the patents of his product in U.S. File 3157

UNITED KINGDOM—British firm seeks U.S. manufacturer interested in producing under license its products which include **flame-explosion proof xenon beacons** for use on emergency vehicles, burglar alarm systems, aircraft at airports and navigational use, military search lights, nylon toggle latches, nylon flag clips, beacons for police cars. Products are exported worldwide. File 3158

AUSTRIA—Manufacturer of doors and gates seeks U.S. licensee for its products which include **one-piece overhead door for private garages; folding doors operated manually, electrically or pneumatically; folding doors for fire stations; hospital doors with special features.** File 3159

FRANCE—Large construction firm in France is looking for U.S. firm interested in manufacturing under joint venture agreement **concrete structures** for many types of construction. File 3160

FRANCE—Firm of good commercial reputation is interested in manufacturing its product under license. Product is novel **system of filing drawers in a cabinet** under which papers and documents are filed horizontally. A special opening device gives access to all documents when the drawer is opened. Drawers are easily removed from the filing cabinet to the working areas and readily restored in place. File 3161

GERMANY—Firm wishes to offer for production in U.S. under license: **antivibration supports** for the isolation of sensitive machines from ground vibration and noise; **rubber metal bars, buffers, roof elements, machine footings, damping plates, and U-bearings.** File 3162

GERMANY — Well managed company wants to offer for production under license in U.S. its **rechargeable flashlight.** It is a small flashlight available in several models including one that can be recharged using cigarette lighter in car. Heavy duty types and underwater types are also offered. File 3163

FRANCE—Old established firm seeks arrangement with U.S. firm for manufacture and sale in U.S. of its **ampule washing, sterilizing machines.** File 3164

NEW ZEALAND—Well established firm seeks licensing arrangement for manufacture in U.S. of a line of specialized **garden blades** as attachments for use on four-wheel tractors. Also seeks licensing arrangements to manufacture other garden blades in New Zealand. File 3165

SWITZERLAND — Well reputed firm offers its line of **automatic guideway grinding machines,** for licensing in U.S. These machines were developed to automate manufacture of large, high precision items such as lathe beds and other heavy machine tool parts which previously required complicated operations. Machine is produced in various sizes, according to customer needs. File 3166

SWITZERLAND — Leading firm seeks and offers licenses and technology exchange with U.S. firms covering line of **equipment for nuclear industry,** a field in which that firm has pioneered use of aluminum. Line includes nuclear chambers and target stations, radio frequency accelerating chambers of cyclotrons, reactor vessels and shielding devices, heavy water storage tanks and related cryogenic equipment. File 3167

UNITED KINGDOM—Large manufacturer of soap, toiletries, baby products, semi-ethicals and medicated confectionery, seeks U.S. firm with whom they can work out mutually interesting licensing and manufacturing arrangement to service both countries. File 3168

Colombia Seeks Capital For Minerals Development

Two new companies have been established in Colombia with Arab and Colombian capital to undertake several large projects including exploration, exploitation, beneficiation and exportation of coal and various minerals in Colombia and other Latin American countries.

The project includes construction and start up of a refinery in Egypt for treatment of concentrated minerals imported from South America. Current estimates call for an investment of up to $350 million with much of the technology and equipment coming from the United States. Officials will consider any type of offer from interested parties including investment. Turnkey proposals are preferred. Contact: Khalil Choucair Fegali, President, Minera El Sol, Soc. Ord. De Minas, Carrera 7 No. 12-70 Oficina 706, Bogota. P-76813. OPIC.

The following trade opportunities are based on reports received from the U.S. Foreign Service—Department of State by the Trade Opportunities Division, Room 2323, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1972 Census of Manufactures.

U.S. firms should be aware that the listing in Commerce America *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

The mark (•) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

Heavy construction

• 16200 — MALAWI — Blantyre Water Board invites firms to bid for Phase IV Extensions, Contract No. 1—Civil Works, involving construction of extensions to water treatment plants, pumping stations, reservoirs and pipelines at the Board's installations at Walker's Ferry and Blantyre, and construction of new facilities between these locations. Financed by United Kingdom and Commonwealth/Malawi grant and loan funds. Firms interested in tendering should reply to consulting engineers: Sir Alexander Gibb & Partners, Early House, 427 London Rd., Earley, Reading RG6 IBL, England. Sir Alexander Gibb & Partners (Africa), Delamere House, Victoria Ave., P.O. Box 1196, Blantyre, Malawi. Sir Alexander Gibb & Partners (Africa), Shell/BP House, Harambee Ave., P.O. Box 30020, Nairobi. Application for documents must be accompanied by payment of K100 ($110) and details of previous experience in work of comparable nature. Upon receipt of bona fide tender by due date or return of all documents, K100 ($110) payment will be refunded. Bid deadline Nov. 25.

• 16200—PANAMA—Proposals for design, manufacture, supply, delivery, transport and/or erection of 115 kV Transmission Lines Divisa—Llano Sanchez & Aguadulce—230 kV Fortuna Line will be received until Nov. 30 by Purchasing Dept., Instituto de Recursos Hidraulicos y Electrificacion (IRHE), Poli Bldg., Justo Arosemena Ave. & 27 East St., Panama City. IRHE has received IBRD loan in various currencies equivalent to $30 million towards foreign cost of electrification programs. These foreign costs will be eligible for disbursements from loan in currency of contractor. All proposals must be made according to laws of Panama and guidelines for procurement for World Bank Loans, as detailed in .bid documents. Bid documents as well as all maps, plans, specifications and proposal forms may be inspected at IRHE Offices in Panama, or at Panamanian Embassies in U.S., France, Italy, U.K., Brazil, Germany, Spain and Japan. Complete set of documents may only be obtained directly from offices of IRHE in Panama or by mail from P.O. Box 5285, Panama 5, for non-refundable payment of $25 U.S. per set. Refer to Invitation to Bid No. 530-76.

Paper mills

• 26210—IRAN—State Printing Office invites bids for providing annual supply (up to 618 metric tons) of various watermarked philigrande paper and 500 rolls of gummed watermarked and philigrande paper. Ungummed paper to have fluorescent fibers and be provided in 3 sheet sizes and 3 different basis weights. Gummed philigrande to be provided in width of 35 cm and basis weight of 70 gram/mz (w/o gum). Copy of tender with more detailed specifications and conditions of sale available from Construction and Forest Products Division, BDC, Room 2120, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-3534. Bid deadline Nov. 16.

Agricultural chemicals

• 28790—INDIA—Supply of 400 tons of Endosulfan, technical, 92 percent minimum active ingredient on delivery. Tender No. CPM: 2/E/G. Bid deadline Nov. 1. A. R. Menon, Commercial Manager, Hindustan Insecticides Ltd., Udyogamandal P.O. 683501, Kerala State. Quotations to be f.o.b. and c.&f. Cochin Port, separately quoted. Delivery 100 tons about April 1, 1977, balance in 100 ton lots before Dec. 31, 1977. Tender documents available from U.S. Department of Commerce, BDC/OBRA, Room 2106, Washington, D.C. 20230; 202-377-3420.

Steel mill products

• 33100, 36100, 36400—BOLIVIA—Steel

cable, line ware and conductors for 52 kilometers construction. Tender No. 19-15 PE-1975; bid deadline Nov. 16. Empresa Nacional de Electricidad S.A., Casilla 565, Cochabamba. Specifications available from above address at $37.50.

● **33100—IRAN**—Various sizes and quantities of high pressure seamless black steel pipe. Tender No. 731/104; bid deadline Nov. 6. Iranian State Railways, Tehran. Tender documents available from Iron & Steel Program, BDC, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-2438.

● **33100—KOREA**—34 tons carbon steel pipe. Tender No. KFX-76254-PIII; bid deadline Nov. 4. Office of Supply, Government of Republic of Korea, Seoul. Specifications available from Iron & Steel Program, BDC, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-2438.

● **33100—MEXICO**—75,000 tons railroad rails. Tender No. BIRF 1; bid deadline Nov. 9. Subgerencia de Adquisiciones, Ferrocarriles Nacionales de Mexico, Avenue Central No. 140, 4 Piso Ala "A," Mexico 3, D.F. Specifications available from above address at 500 pesos (about $25.38). Financed by World Bank.

Rolling, drawing & extruding of nonferrous metals

● **33500—ETHIOPIA** — 2,500 kms self-supporting drop wire, 3,000 pcs. outdoor terminal boxes and 500 kms jumper wire. Tender No. 20/76, bid deadline Nov. 22. Telecommunications Service of Ethiopia, P.O. Box 1047, Addis Ababa. Tender documents available from Copper, Lead & Zinc Program, BDC, U.S. Department of Commerce, Washington, D.C. 20230, 202-377-2438.

Special industrial machinery

3559585—HONDURAS — Complete machinery & equip. for tanning industry & leather working, incl.: brushing machine; flashing machine; setting-up machine; unhairing machine; cutting and splitting machines; colloid mill and homogenizers; centrifugal atomizing humidification system. Buyer wants to receive offers with complete catalogs and price lists, c.i.f. Puerto Cortes, against L/C, or better terms of payment. Buyer operates one of largest meat packing plants in Honduras and wants to expand business to include tanning plant. Local banking circles report excellent reputation for this firm. Total sale may amount to U.S. $150,000. European offers are competitive. Reply to—Jose Andonie Fernandez, Pres., CORSA (Empacadora Cortes, S.A.), Km. 8 Carretera A Cortes, San Pedro Sula. Cable CORSA; tel. 522984.

General industrial machinery

● **35600—EL SALVADOR**—Design, fabrication, installation and testing of pumps and auxiliary equipment for 9 pumping stations in Anda's North Zone Project to supply water to metropolitan San Salvador's Northern area. Contract will also include supply and installation of auxiliary operating and control equipment such as motors, starters, transformers, small pumps for drainage, maintenance cranes and telemetric equipment for control of entire system. Tender No. IN9/76, bid deadline Nov. 12. Proyecto Zona Norte, Administracion Nacional De Acueductos y Alcanterillados (ANDA), Boulevard Del Hipodromo No. 609, Colonia San Benito, Sal Salvador. Documents and plans can be examined in offices of North Zone Project at above address. Tender documents including information, contract conditions, specifications and plans (in Spanish) available for 250 colones, equal to $100, to interested bidders or representatives at above address. Does not mail to U.S. or other countries.

3569998 — INDONESIA — Cremating equip. Dir. of firm has contact with several businesses requiring such equip. WTDR under preparation. Estab. 1974, currently engaged as agent for welding wire alloy & metal coating machine. Sells throughout Indonesia. Has 20 employees incl. 2 salesmen. Authorized capital reported 10 million rupiah (US$1 equals RP .415). Annual turnover 400 million rupiah. Payment to be funded by L/C. Requests catalogs, c.i.f. Jakarta price quotations for above. Interested firms should contact by cable ASAP. Reply to—T. Doddy Jusuf, Dir., P. T. Super Delta Jaya, Jalan Toko Tiga No. 51, Jakarta Barat. Cable Ptlimasatu Jakarta; tel. 21276, 26282.

Household appliances

3639961—JAPAN—Household empty can compactors to be used with coin operated vending machines. Est. annual purchase $50,000. Newly estab. distr. of waste treatment machines & equip. & anti-pollution devices. Est. annual sales $300,000. Ref.: Tokai Bank, Higashi Br., Nagoya. Reply to: Yoshiaki Ito, Mng. Dir., Santoh Co., Ltd., Nihon Kiin Kaikan, 7th. Floor, 1-13 Shumoku-Cho, Higashi-Ku, Nagoya 461, Japan. Tel.: 052/961/7477.

Communications equipment

● **36610—ETHIOPIA** — Beyene Desya, Gen. Mgr., Telecommunications Service of Ethiopia, CPO Box 1047, Addis Ababa, has issued tender no. 21/76 for supply of 55 manual telephone exchanges of various types, bid deadline Nov. 25. Also, tender no. 22/76 for supply of 40-unit two-way, fixed-station, single-channel, solid-state VHF radio link system, capable of good quality telephone communications by line-of-sight up to 100 kilometers, or near line-of-sight to 60 kilometers. Should be small, modern, highly reliable and designed to consume minimum power. Bid deadline Nov. 29. Copy of specifications for each tender available free of charge from above address.

● **36620—BANGLADESH** — Project Manager, ADB Aided Project, Bangladesh Railway, Railway Bldg., Chittagong, has issued tender No. COS/SIG/ADB/2-TEND for supply of railway signaling equipment. Bid deadline Dec. 11. Copy of specifications available from above address at TK 200 plus postage charges of TK 15.

Instruments for measurement, analysis and control

● **38230—INDIA**—Directorate General of Supplies and Disposals, Parliament St., New Delhi 110 001, has issued tender No. P/220/532/20-8-76/P3 for supply of ten electric loggers. Bid deadline Nov. 15. Copy of specifications available from Supply Wing, Embassy of India, 2536 Mass. Ave., NW., Washington, D.C. 20008, at $5.30 per set.

3823078, 3662310—ITALY—Multi (up to 6) station tetraethyl lead vapors detector with sensitivity range from 50 to 150 micrograms/cu. meter of air at room temp., complete with 24 hr. record chart. Firm is large mfr. of tetraethyl & tetramethyl lead antiknock products for fuel gasoline. Equip. urgently required for own plant. Well known entity of very good reputation. Banking sources assign it high credit rating. Telephone or telex: Carlo Randaccio, Pres., S.L.O.I.—Societa Lavorazioni Organiche Inorganiche, via Calzolerie 1, 40125 Bologna, Italy. Tel.: 051/229405; telex: 51652 Sloi Bo Irim.

Representations

Foreign private firms are interested in agency agreements and/or distributorships for these products.

Wood products

2499583—SWEDEN — Wooden trays & chopping boards for household & institutional use. Co. intends to buy 40,000 trays & 40,000 chopping boards if prices offered are competitive. Small, well-estab. co. & finan. sound. Business obligations have been met satisfactorily. Reply to: Goran Nygren, Firma Cany, Box 117, S-640 31 Mellosa, Tel.: 0157/60320.

Electronic components, accessories

3674992—SWEDEN—Solar cells and accessories. Fertronic, which is a subsidiary of Eric Ferner AB, one of the principal Scandinavian agents in electronics, represents National Semiconductor Corp. Highly recommended trade contact. Reply to—Stefan Kristrom, Fertronic AB, Box 56, S-161 26 Bromma. Telex: 10312; Telephone: 08/25 26 10.

Electrical machinery, equipment, supplies

3693096—SWITZERLAND—Heart valves, arterial grafts. Small to medium enterprising distrib. of medical instruments & surgical supplies. 10 employees. Sales territory: Switzerland & neighboring countries. Bank ref: Swiss Credit Bank, Witikon, Canton Zurich. Good reputation. Reply to—Reto Edelma N, Dir., Danieli A.G., Lohwisstrasse 28, 8123 Ebmatingen. Cable Danag; tel. 01-94 02 81; telex 57320.

Visiting Buyers & Officials

SWEDEN—John Wattin of Stockholm is interested in being contacted by U.S. manufacturers or suppliers of **sporting, camping and boating goods as well as arts and crafts products.** He may be contacted through Theresa Rettig, 202-377-3265.

AUSTRALIA — R. Michael, Mng. Dir., Dacqs Pty. Ltd., Lane Cove, will be visiting the United States this month to purchase **OEM equipment** such as data storage, display, input, output, tape transports, tape drives, printers, etc. His firm assembles office computer systems and markets OEM equipment in Australia. He will visit San Francisco, Marina del Rey and Hayward, Calif.; Oklahoma City; Skokie, N.Y.; and Middletown, Conn. American suppliers may contact Bill Corfitzen, Room 2322, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-2068.

AUSTRALIA — N. B. Thomas, Mgr., Repco Accessories Pty., Ltd., Bankstown, will attend the 8th Annual Automotive Parts and Accessories Association Show, Las Vegas, Oct. 20-21. He will spend two weeks in the United States to contact American suppliers of **automotive accessories** of all types, **but** particularly hand tools for home and garage and accessories for campers, caravans, off-road vehicles and powered boats. Repco is Australia's largest distributor of auto parts and accessories. Contact Bill Corfitzen, 202-377-2068.

ITALY—Pietrangelo Battaglini and Antonio Cina of Milan want to establish contact with U.S. suppliers for purchase of **aluminum and magnesium alloys and scraps and eventual purchase of equipment for aluminum processing** (dies, presses, etc.). They may be contacted through Theresa Rettig, Foreign Buyer Program, Room 2322, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-3265.

UNITED KINGDOM — George King of Birmingham is interested in hearing from U.S. firms interested in reciprocal trading deal. His firm manufactures **auto "pop-on" sun roofs, glass roofs, and steel electrically-operated roofs.** He may be contacted through Theresa Rettig, 202-377-3265.

AUSTRIA—Mr. Traub and Mrs. Rupp, Manager and Director of Josef Rupp GMBH, Lochau, will visit the United States Oct. 26-Nov. 1 to acquire new technology and equipment for **cheese processing.** Rupp is large producer and distributor of cheese employing 180 people. Buyer Wolfgang Alge is at Food and Dairy Expo, Atlantic City (Oct. 10-14). These buyers may be contacted through Bill Corfitzen, Room 2322, U.S. Department of Commerce, Washington, D.C. 20230; 202-377-2068.

Benin Seeks U.S. Firms To Publish Brochures

The tourist agency for the Government of the People's Republic of Benin, Office National Du Tourisme et De L'Hotellerie (ONATHO), is seeking inquiries from U.S. companies for the publication of tourist brochures in English, French, and German. The Agency's present contract is nearing expiration and ONATHO welcomes introductory correspondence from American firms to produce the literature.

Brochures presently in use include a five-page, single-sheet foldout, 20 by 8¼ inches, with 8 full-color photographs, a six-color outline map of Benin, five pages of type matter, and a full-color, two-page aerial photograph of Ganvie, the major tourist site near Cotonou. Estimated need for this brochure is 50,000 copies. Also in use is a 48-page, soft-cover "Passeport Touristique" that includes 15 color photographs and 31 pages of type. Estimated need for this piece is 6,000 copies. Parties interested in this export opportunity should correspond, preferably in French to: M. Nicholas Oshumare, Directeur, Charge Des Etudes Et De L'exploitation, ONATHO, B.P. 89, Cotonou, Republique Populaire Du Benin.

Future Construction Abroad

COLOMBIA—Choucair Fegali, President, Minera El Sol and Minera Arabe Latinoamericana, has announced that these **two companies have been established in Colombia with Arab and Colombian capital to undertake several large projects** including exploration, exploitation, transformation, beneficiation and exportation of "coal and existing minerals in Colombia and other Latin American countries." Project also will involve installation and start-up of modern refinery in Egypt for treatment of concentrated minerals imported from South America. Fegali estimates that initial investment of $200 million will be needed, with 85 percent of technology, machinery and equipment coming from U.S. and remaining 15 percent from Colombia and Arab countries. To complement abovementioned projects, two concentrating plants and one refinery will be constructed in Colombia. Fegali estimates that additional investment of $150 million will be required for acquisition of machinery, equipment, tools, handling systems, transportation equipment, installation, and start-up of this part of project, also to be purchased in U.S. 15 percent of total investment has been obtained from Arab and Colombian sources. Officials of company are looking for remaining 85 percent from U.S. or other foreign sources, keeping in mind Andean Pact restrictions regarding foreign investment. If foreign investment is not obtainable for all project costs, long-term financing for U.S. equipment will be sought. Firm will consider any type of offer for equipment, technology, or U.S. capital. Turn-key offers are preferred. Interested U.S. firms should contact: Khalil Choucair Fegali, President, Minera El Sol, Soc. Ord. De Minas, Carrera 7 No. 12-70 Oficina 706, Bogota.

INDIA—Vinay Poddar, Chief Executive, Jay Transmission Pvt. Ltd. (JTP), S-155 Panchshila Park, New Delhi 110017, wishes to represent a U.S. deep-water-well drilling and service contractor interested in undertaking turnkey job for **installation and commissioning of about 23,000 tubewells** (depth ranging from 100 to 500 meters) in State of Uttar Pradesh. In addition to technical/engineering and personal services, would require imported equipment such as mobile rigs, slotting machines, saws and accessories. Import component will be funded from $45 million IBRD loan. Interested firms should contact Poddar directly. OPIC.

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